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THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

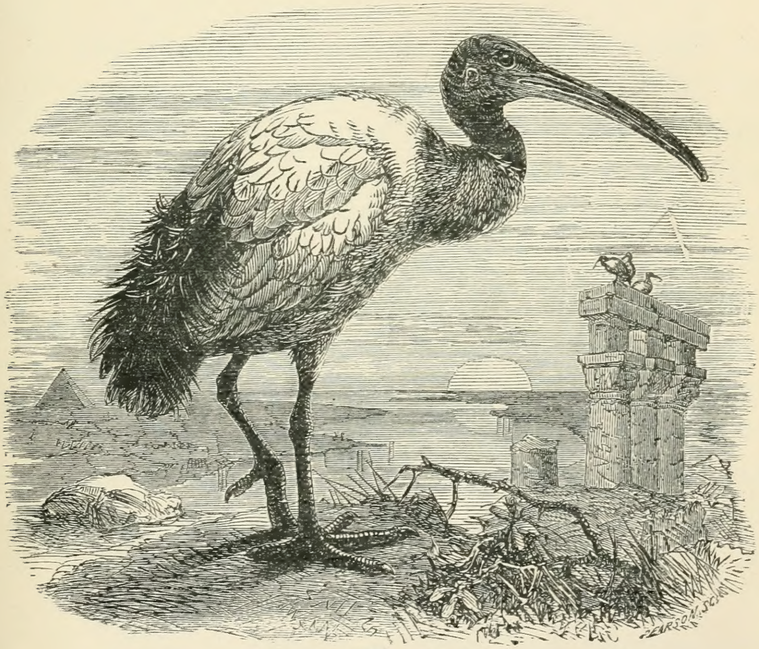
EDITED BY

PHILIP LUTLEY SCLATER, M.A., Ph.D., F.R.S.,

SECRETARY TO THE ZOOLOGICAL SOCIETY OF LONDON,

AND

HOWARD SAUNDERS, F.L.S., F.Z.S.



VOL. VI. 1900.

SEVENTH SERIES.

Non moriar, sed vivam, et narrabo opera Domini.

LONDON:
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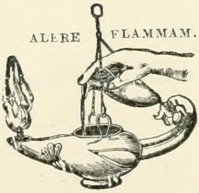
(SUCCESSORS TO J. VAN VOORST.)
1900.


ALERE FLAMMAM.

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PREFACE.

The present volume, we venture to remind our readers, is the last of the Seventh Series of 'The Ibis,' and the forty-second of the entire work. We think that the seven surviving Members of the small company of friends who founded the British Ornithologists' Union at Cambridge, in 1858, may well be satisfied with the results which have sprung from their conference on that occasion. The Ordinary Members of our Union are now no fewer than three hundred and forty-four in number, while the names of some of our most valued Contributors are to be found in the highly representative lists of our Honorary and Foreign Members, scattered all over the civilized world.

While thanking our friends and correspondents most sincerely for their valuable aid, without which 'The Ibis' could not have been carried on, we may call attention to the fact that at the last Annual Meeting (see p. 528 of the present volume) it was agreed that the Editors of the Eighth Series should be P. L. Sclater, F.R.S., and A. H. Evans, M.A. It was with great regret that Saunders felt unable to offer his services for another Series of the Journal, owing to his failing eye-sight. The support accorded to 'The Ibis' in the past is again asked for, and is confidently expected to be granted to the succeeding Editors in the future.

P. L. S.
H. S.

3 Hanover Square,
September 15th, 1900.

BRITISH ORNITHOLOGISTS' UNION.

1900.

[An asterisk indicates an Original Member. It is particularly requested that Members will give notice to the Secretary of the Union, 3 Hanover Square, London, W., of any error in their addresses or descriptions in this List, in order that it may be corrected.]

Date of Election.

1896. Alexander, Capt. Boyd, F.Z.S. (7th Bn. Rifle Brigade); Swifts Place, Cranbrook, Kent.

1888. Aplin, Oliver Vernon; Bloxham, Banbury, Oxon.

1896. Archibald, Charles F.; 9 Cardigan Road, Headingley, Leeds.

1896. Arrigoni degli Oddi, Count Ettore, Professor of Zoology, University, Padua; and Ca' oddo, Monselice, Padua, Italy.

5 1897. Astley, The Rev. Hubert Delaval, F.Z.S.; Chequers Court, Butler's Cross, S.O., Bucks.

1885. Backhouse, James, F.Z.S.; Daleside, Harrogate.

1892. Baker, E. C. Stuart; District Superintendent of Police, Dibrughur, Assam, India; care of Messrs. H. S. King & Co., 65 Cornhill, E.C.

1899. Balfour, Frederick Robert Stephen; Dawyck, Stobo, N.B., and Bachelors' Club, Piccadilly, W.

1889. Balston, Richard James, F.Z.S.; Springfield, Maidstone.

10 1890. Barclay, Francis Hubert; Herne Close, Cromer, Norfolk.

1872. Barclay, Colonel Hanbury, F.Z.S.; Tingrith Manor, Woburn, Bedfordshire.

1885. Barclay, Col. Hugh G.; Colney Hall, Norwich.

1889. Barrett-Hamilton, Gerald E. H., F.Z.S.; Kildare Street Club, Dublin; Kilmanock, Arthurstown, Ireland; and 68 Pall Mall, S.W.

1881. Barrington, Richard Manliffe, LL.B.; Fassaroe, Bray, Co. Wicklow.

15 1884. Beddard, Frank E., M.A., F.R.S., F.Z.S., Prosector to the Zoological Society of London; Zoological Society's Gardens, Regent's Park, N.W.

1897. Benson, John; The Post Office, Vancouver, B.C.

1897. Berry, William, B.A., LL.B.; Tayfield, Newport, Fifeshire.

1880. Bidwell, Edward; 1 Trig Lane, Upper Thames Street, E.C.

Date of Election.

1884. Bingham, Lt.-Col. Charles T. (Indian Staff Corps), F.Z.S.; care of Messrs. H. S. King & Co., 65 Cornhill, E.C.

20 1892. Bird, Rev. Maurice C. H., M.A.; Brunstead Rectory, Stalham, S.O., Norfolk.

1891. Blaauw, F. E., C.M.Z.S.; Gooilust, 'sGraveland, Noord-Holland.

1898. Bland, Ivers; Newbold Firs, Leamington.

1873. Blanford, William T., LL.D., F.R.S., F.Z.S.; 72 Bedford Gardens, Kensington, W.

1897. Bligh, Hon. Ivo Francis; Southfields Grange, Wandsworth, S.W., and Union Club, Trafalgar Square, W.C.

25 1893. Bolam, George, F.Z.S.; The Mead, Beal, R.S.O., Northumberland.

1897. Bonar, Rev. Horatius Ninian; Free Church Manse, Salton, Pencaitland, East Lothian, N.B.

1894. Bonhote, John Lewis; Ditton Hall, Fen Ditton, Cambridgeshire.

1898. Booth, George Albert; Phœnix Iron Works, Derby Street, Preston, and Fern Hill, Grange-over-sands, Lancs.

1895. Bradford, Dr. J. Rose, F.R.S.; 60 Wimpole Street, W.

30 1885. Brockholes, William Fitzherbert; Claughton-on-Brock, Garstang, Lancashire.

1899. Brooke, Harry Brinsley; 33 Egerton Gardens, Kensington, W.

1899. Brooke, John Arthur, J.P.; Fenay Hall, Huddersfield, and Fearn Lodge, Ardgay, Ross-shire.

1900. Bruce, William Spiers; Zoological Laboratory, Surgeons' Hall, Edinburgh.

1868. Buckley, Thomas Edward, B.A., F.Z.S.; Rossal, Inverness, N.B.

35 1895. Bulgaria, H.R.H. Ferdinand, Prince of; Sophia, Bulgaria.

1872. Buller, Sir Walter Lawry, K.C.M.G., Sc.D., F.R.S., C.M.Z.S.; 122 Tinakori Road, Wellington, New Zealand, and 23 Cadogan Place, S.W.

1899. Butler, Arthur Lennox; State Museum, Kuala Lampor, Selangor, Malay States.

1884. Butler, Lieut.-Col. E. A.; Plumton House, Bury St. Edmunds, Suffolk.

1896. Butterfield, W. C. J. Ruskin; 4 Stanhope Place, St. Leonards-on-Sea.

40 1900. Buttress, Bernard A. E.; The Cross House, Fawkham, Kent.

Date of Election.

1884. Buxton, Geoffrey Fowell; Dunston Hall, Norwich.

1895. Buxton, S. Gurney, F.Z.S.; Catton Hall, Norwich.

1896. Cade, Francis J.; Teighmore, Cheltenham.

1889. Cameron, Ewen Somerled, F.Z.S.; Terry, Montana, U.S.A.

45 1896. Cameron, James S.; 1st Bn. Royal Sussex Regt., and Low Wood, Bethersden, Ashford, Kent.

1888. Cameron, John Duncan; Low Wood, Bethersden, Ashford, Kent.

1892. Campbell, Charles William, C.M.Z.S., H.B.M. Chinese Consular Service; British Legation, Peking, China.

1888. Carter, James; Burton House, Masham, R.S.O., Yorkshire.

1899. Cartwright, Thomas Leslie Melville; Newbottle Manor, Banbury.

50 1890. Cave, Charles John Philip, F.Z.S.; Ditcham Park, Petersfield.

1888. Chamberlain, Walter, F.Z.S.; Bromesberrow Place, Ledbury.

1894. Chance, A. Macomb, Jun., B.A.; Lawnside, Edgbaston, Birmingham.

1884. Chapman, Abel, F.Z.S.; 9 South Bailey, Durham.

1882. Chase, Robert William; Southville, Priory Road, Edgbaston, Birmingham.

55 1900. Chatterton, Frederick J. S.; 78 Clissold Road, Stoke Newington, N.

1900. Chaworth-Musters, John Patricius, D.L., J.P.; Annesley Park, Nottingham.

1897. Cholmley, Alfred John, F.Z.S.; Place Newton, Rillington, Yorkshire.

1889. Clarke, Stephenson Robert, F.Z.S.; Borde Hill, Cuckfield, Sussex.

1880. Clarke, William Eagle, F.L.S.; Museum of Science and Art, Edinburgh.

60 1898. Cocks, Alfred Heneage, F.Z.S.; Poynetts, Skirmett, near Henley-on-Thames.

1898. Coke, Hon. Richard; 1st Bn. Scots Guards.

1895. Coles, Richard Edward; Oakfield, Milton, Lymington.

1880. Cooper, Rt. Hon. Lieut.-Col. E. H., P.C., F.Z.S.; 42 Portman Square, W.

1888. Cordeaux, Captain William Wilfrid; (21st Lancers) Westgate Court, Canterbury.

65 1882. Cory, Charles B., F.Z.S.; Third National Bank, State Street, Boston, Mass., U.S.A.

Date of Election.

1892. Courage, Harold Mitchell; Snowdenham, Bramley, Guildford.

1899. Cowie, Archibald; St. John's School, Leatherhead.

1896. Cowie, Major Alexander Hugh, R.E., F.Z.S.; care of H. Ward, Esq., Yeatton, Lymington, Hants, and St. Lucia, West Indies.

1896. Crawford, Francis C.; 19 Royal Terrace, Edinburgh.

70 1894. Crewe, Sir Vauncey Harpur, Bt.; Calke Abbey, Derbyshire.

1896. Crockett, Samuel Rutherford; Bank House, Penicuik, Midlothian.

1895. Crossley, Sir Savile B., Bt., F.Z.S.; Somerleyton, Lowestoft, and 12 Carlton-House Terrace, S.W.

1898. Crossman, Alan F.; St. Cuthbert's, Berkhamsted, Herts.

1882. Crowley, Philip, F.Z.S.; Waddon House, Waddon, Croydon.

75 1898. Crowley, Reginald Alwyn; Highfield, Alton, Hants, and 22 High Street, Croydon.

1899. Curtis, Frederick; Chalfont House, 20 Queen Square, W.C.

1877. Dalgleish, John J.; Brankston Grange, Bogside Station, Stirling, N.B.

1898. Dalrymple, Hon. John James; 2nd Bn. Scots Guards.

1896. Danford, Bertram W. Y., R.E.; Bermuda.

80 1883. Davidson, James, F.Z.S.; Karwar, Kanara, Bombay, and 32 Drumsheugh Gardens, Edinburgh.

1899. Davies, Sutton A.; 2nd East Lancs. Regt., Jullundur, Punjab, India.

1891. De Vis, Charles W.; Queensland Museum, Brisbane, and care of B. Quaritch, 15 Piccadilly, W.

1893. De Winton, W. E.; Graftonbury, Hereford, and 59 Charlotte Street, Portland Place, W.

1896. Dobbie, James B., F.Z.S.; 2 Hailes Street, Edinburgh.

85 1889. Dobie, William Henry, M.R.C.S.; 2 Hunter Street, Chester.

1895. Donovan, Surgeon-Capt. Charles, I.M.S., Civil Surgeon; Rose Cottage, Nungumbakam, Madras, India.

1865. Dresser, Henry Eeles, F.L.S., F.Z.S.; 110 Cannon Street, E.C.

1896. Drewitt, Dr. Frederic, M.A., M.D., F.R.C.P.; 14 Palace Gardens Terrace, Kensington, W.

Date of Election.

1890. Drummond-Hay, Capt. James A. G. (Coldstream Guards); Seggieden, Perth, N.B.

90 1878. Durnford, W. Arthur, J.P.; Elsecar, Barnsley.

1896. Duthie, Lt.-Col. W. H. M.; Row, Doune, Perthshire.

1870. Elliot, Daniel Giraud, F.R.S.E., F.Z.S.; Field Columbian Museum, Chicago, U.S.A.

1895. Elliot, Edmund A. S., M.R.C.S.; Woodville, Kingsbridge, South Devon.

1884. Elliott, Algernon, Civil and Sessions Judge, Amraoti Camp, Berar, H.A.D., India.

95 1866. Elwes, Henry John, F.R.S., F.Z.S.; Colesborne, Andoversford, R.S.O., Gloucestershire.

1895. Erlanger, Freiherr Carlo von; Nieder Ingelheim, Rhein Hessen, Germany.

1879. Evans, Arthur Humble, M.A., F.Z.S.; 9 Harvey Road, Cambridge.

1888. Evans, William, F.R.S.E.; 38 Morningside Park, Edinburgh.

1892. Fairbridge, William George; 133 Long Market Street, Capetown, South Africa.

100 1895. Falconer, John J. M.; St. Ann's, Lasswade, N.B.

1894. Farquhar, Capt. Arthur M., R.N.; Granville Lodge, Aboyne, N.B.

1898. Farquhar, Commr. Stuart St. J., R.N.; H.M.S. 'Pembroke,' Chatham, and Drumnagesk, Aboyne, N.B.

1873. Feilden, Col. Henry Wemyss, C.M.Z.S.; West House, Wells, Norfolk, and Junior United Service Club, S.W.

1897. Fenwick, Edward Nicholas Fenwick; Oxford and Cambridge Club, Pall Mall, S.W.

105 1886. Ferguson, Lieut. Harold Stuart; Nair Brigade, Trevandrum, Travancore, India.

1892. Finn, Frank, B.A., F.Z.S.; Indian Museum, Calcutta.

1890. Fisher, Lionel; Kandy, Ceylon.

1884. Forbes, Henry Ogg, LL.D., F.Z.S.; Free Public Museums, Liverpool.

1898. Foster, George E.; Brooklands, Cambridge.

110 1880. Foster, William; Braeside, The Heath, Weybridge.

1887. Fowler, William Warde, M.A.; Lincoln College, Oxford.

1865. Fox, Rev. Henry Elliott, M.A.; The Croft, Lytton Grove, Putney Hill, S.W.

1881. Freke, Percy Evans; 7 Limes Road, Folkestone.

Date of
Election.

1895. Frohawk, Frederick William; 42 Waddon Road, Croydon.

115 1881. Gadow, Hans, Ph.D., F.R.S., F.Z.S.; University Zoological Museum, Cambridge.

1886. Gainsborough, Charles William Francis, Earl of; Exton Park, Oakham.

1900. Garnett, Charles; 9 Porchester Gardens, W., and New University Club, St. James's Street, S.W.

1900. Gayner, Francis; Beech Holm, Sunderland, and Kings' College, Cambridge.

1892. Gerrard, John; Government Inspector of Mines; Worsley, near Manchester.

120 1879. Gibson, Ernest; Los Ingleses, Ajó, Buenos Aires.

* 1858. Godman, Frederick DuCane, D.C.L., F.R.S., F.Z.S.; 10 Chandos Street, Cavendish Square, W. *President.*

* 1858. Godman, Percy Sanden, B.A., C.M.Z.S.; Muntham, Horsham.

1900. Goodfellow, Walter; 26 Nelson Road, Southsea.

1899. Gould, Frank Herbert Carruthers; Amherst, Grove Road, East Molesey, Surrey.

125 1895. Grabham, Oxley, M.A.; Thornton Dale, Pickering, Yorks.

1890. Grant, William R. Ogilvie; 29 Elvaston Place, S.W.

1885. Guillemard, F. H. H., M.A., M.D., F.Z.S.; Old Mill House, Trumpington, Cambridge.

1876. Günther, Albert C. L. G., M.A., M.D., F.R.S., F.Z.S.; 2 Lichfield Road, Kew Gardens, S.W.

1898. Gurney, Lieut. Anthony Francis, R.N.; North Runcton Hall, King's Lynn, and H.M.S. 'Widgeon,' Cape of Good Hope Station.

130 1870. Gurney, John Henry, F.Z.S.; Keswick Hall, Norwich, and Athenæum Club, Pall Mall, S.W.

1897. Gurney, J. Nigel; Sprowston Hall, Norwich.

1896. Gurney, Robert; Sprowston Hall, Norwich.

1890. Gwatkin, Joshua Reynolds Gascoign; The Manor House, Potterne, Devizes.

1891. Haigh, George Henry Caton; Grainsby Hall, Great Grimsby, Lincolnshire.

135 1898. Haines, Charles Reginald, M.A.; Meadhurst, Uppingham, Rutland.

1887. Haines, John Pleydell Wilton; 17 King Street, Gloucester.

Date of Election.

1898. Hale, Rev. James Rashleigh, B.A.; Yalding, Kent.

1886. Hamilton, Edward, M.D., F.L.S., F.Z.S.; 16 Cromwell Place, S.W.

1900. Harper, Edmund William, F.Z.S.; 1a Camac Street, Calcutta.

140 1900. Harris, Henry Edward; Overton, Torquay.

1893. Hartert, Ernst; The Museum, Tring, Herts.

1868. Harting, James Edmund, F.L.S., F.Z.S.; Linnean Society, Burlington House, Piccadilly, W.

1896. Hartland, John Coles; c/o Messrs. Hunt & Co., P.O. Box 11, Yokohama, Japan.

1893. Hartmann, William; Tangley Mere, Chilworth, Surrey.

145 1899. Harvey, Capt. Robert Napier, R.E.; Stanhope Lines, Aldershot.

1873. Harvie-Brown, John A., F.Z.S.; Dunipace House, Larbert, N.B.

1900. Hasluck, Percy Pedley Harford; The Wilderness, Southgate, N.

1898. Hawker, Richard M., F.Z.S.; Bath Club, Dover Street, W., and c/o A. Scott, Esq., 83 St. Clement's House, Clement's Lane, E.C.

1887. Hebbert, Charles T., F.Z.S.; The Rhodrons, Hook, Kingston-on-Thames.

150 1899. Heywood, Richard; St. Margaret's Place, King's Lynn, Norfolk.

1900. Hills, John Waller; 14 Victoria Grove, Kensington, W., and Corby Castle.

1895. Hinxman, Lionel W., B.A.; Geological Survey of Scotland, Edinburgh.

1884. Holdsworth, Charles James, J.P.; Kendal, Westmoreland.

1877. Holdsworth, Edmund W. H., F.Z.S.; South Town, Dartmouth, Devon.

155 1891. Holland, Arthur H.; Estancia Sta. Elena, Halsey, F.C.O., Argentine Republic, and Holmhurst, Copse Hill, Wimbledon, S.W.

1888. Horsfield, Herbert Knight; Ivy Lodge, Chapel Allerton, Leeds.

1893. Hose, Charles, D.Sc., F.Z.S.; Baram, Sarawak, Borneo.

1895. Howard, Henry Eliot; Clarelands, near Stourport.

Date of Election.

1881. **Howard, Robert James**; Shearbank, Blackburn, Lancashire.

160* 1858. **Hudleston, Wilfrid Hudleston**, M.A., F.R.S., F.Z.S.; 8 Stanhope Gardens, S.W.

1893. **Hudson, William Henry**, F.Z.S.; Tower House, St. Luke's Road, Westbourne Park, W.

1869. **Hume, Allan Octavian**, C.B., C.S.I., F.Z.S.; The Chalet, Kingswood Road, Upper Norwood, S.E.

1890. **Hunter, Henry Charles Vicars**; Mawley Hall, Cleobury Mortimer, Salop.

1870. **Irby**, Lieut.-Col. **Leonard Howard**, F.Z.S.; 14 Cornwall Terrace, Regent's Park, N.W.

165 1888. **Jackson, Frederick J.**, C.B., F.L.S.; The Red House, Aldeburgh, Suffolk.

1892. **James, Henry Ashworth**; 11 Oxford Square, Hyde Park, W.

1896. **Jesse, William**; La Martinière College, Lucknow, Oudh, India.

1889. **Johnson, Frederick Ponsonby**; Castlesteads, Brampton, Cumberland.

1891. **Johnston**, Sir **Harry Hamilton**, K.C.B., F.Z.S.; H.B.M.'s Commissioner, Uganda, British East Africa.

170 1900. **Jones**, Major **Henry** (late 62nd Regt.); East Wickham House, Welling, Kent.

1899. **Jourdain**, The Rev. **Francis Charles Robert**, M.A.; Clifton Vicarage, near Ashbourne, Derbyshire.

1880. **Kelham**, Col. **Henry Robert** (1st Bn. Highland Light Infantry); 52 Lisbury Road, Hove, Brighton.

1894. **Kelsall**, Capt. **Harry Joseph**, R.G.A.; Rangoon.

1897. **Kelsall**, Rev. **John Edward**, M.A.; Milton Rectory, Lymington, Hants.

175 1882. **Kermode, Philip M. C.**; Hillside, Ramsay, Isle of Man.

1891. **Kerr, J. Graham**; Christ's College, Cambridge.

1895. **Kingsford, William Edward**; Horsell, Woking, Surrey.

1900. **König**, Dr. **Alexander Ferdinand**; Professor at Bonn University, Coblenzer-Strasse 164, Bonn, Germany.

1882. **Knubley**, Rev. **Edw. Ponsonby**, M.A.; Steeple Ashton Vicarage, Trowbridge.

180 1892. **Laidlaw, Thomas Geddes**; Bank of Scotland, Morningside Branch, 8 Morningside Road, Edinburgh.

Date of Election.

1884. Langton, Herbert; 11 Marlborough Place, Brighton.

1881. Lascelles, Hon. Gerald; Queen's House, Lyndhurst.

1892. La Touche, John David Digues, C.M.Z.S.; Chinese Imperial Maritime Customs, Foochow, China.

1898. Learoyd, A. Ernest; Rawthorpe Hall, Huddersfield.

185 1876. Legge, Col. William Vincent (late R.A.), F.Z.S.; Cullenswood House, St. Mary's, Tasmania.

1898. Le Souëf, Dudley; Zoological and Acclimatisation Society, Zoological Gardens, Melbourne.

1868. Le Strange, Hamon, F.Z.S.; Hunstanton Hall, King's Lynn, Norfolk.

1875. L'Estrange, Col. Paget Walter, R.A.; Llwynbedw, Boncath, R.S.O., South Wales.

1893. Lewis, Frederick; Assistant Conservator of Forests, c/o The Forest Department, Colombo, Ceylon.

190 1889. Leyland, Christopher John; Haggerston Castle, Beal, Northumberland.

1897. Lilford, John, Lord, F.Z.S.; Lilford Hall, Oundle, Northants.

1874. Lloyd, Col. John Hayes, F.Z.S.; 95 Adelaide Road, N.W.

1898. Loat, William Leonard S., F.Z.S.; Newland, Coleford, Gloucestershire, and The School of Medicine, Cairo, Egypt.

1897. Lodge, George Edward, F.Z.S.; 5 Verulam Buildings, Gray's Inn, W.C.

195 1889. Loyd, Major Arthur Purvis, F.Z.S. (late 21st Hussars); Harnham Cliff, Salisbury.

1896. Lubbock, Percy; 26 Cadogan Gardens, S.W., and King's College, Cambridge.

1877. Lumsden, James, F.Z.S.; Arden House, Alexandria, N.B.

1896. Luttman-Johnson, James Arthur, M.A., F.Z.S.; 101 Mount Street, W.

1900. McConnell, Frederick Vavasour; 37 Cranley Gardens, South Kensington, S.W.

200 1897. McLean, John Chambers; Waikohu Station, Te Karaka, Gisborne, New Zealand.

1899. Macmillan, George Augustin; 19 Earl's Terrace, Kensington, W.

1894. Macpherson, Arthur Holte; 51 Gloucester Terrace, Hyde Park, W.

Date of Election.

1886. Macpherson, Rev. Hugh Alexander, M.A.; The Rectory, Pitlochry, Perthshire.

1875. Malcolm of Poltalloch, John Wingfield, Lord, C.B., F.Z.S.; Poltalloch, Lochgilphead, Argyllshire, and 23 Great Cumberland Place, W.

205 1899. Marais, Johann van Oosterzee; Forest Department, Knysna, Cape Colony.

1894. Marshall, Archibald McLean; Ard's Place, Aberlady, S.O., Haddingtonshire, and 29 Queen's Gate Gardens, S.W.

1894. Marshall, James McLean; Ard's Place, Aberlady, S.O., Haddingtonshire.

1899. Martin, Basil William; Elm Lodge, Elm Row, Hampstead, N.W., and Darley Abbey, Derby.

1897. Mason, Col. Edward Snow; 20 Minster Yard, Lincoln.

210 1898. Massey, Herbert; Ivy Lea, Burnage, Didsbury, Manchester.

1899. Mathews, Arnold; Ballynahinch Castle, Toombeola, Co. Galway.

1898. Maxwell, Aymer Edward; 3rd Bn. Grenadier Guards.

1896. Maxwell, Rt. Hon. Sir Herbert E., Bt., P.C., M.P., F.R.S.; 49 Lennox Gardens, S.W.

1883. Meade-Waldo, Edmund Gustavus Bloomfield, F.Z.S.; Stonewall Park, Edenbridge, Kent.

215 1899. Meinertzhagen, Richard; Mottisfont Abbey, Romsey; 25 Rutland Gate, S.W.; and Royal Fusiliers.

1900. Metcalfe, Geoffrey Bryan Theophilus; Roche Court, Salisbury.

1886. Millais, John Guille, F.Z.S.; Melwood, Horsham.

1879. Mitchell, Frederick Shaw; Clyderhowe, Edmonton, Alberta, N.W.T., Canada.

1897. Mitchell, William; 5 Bury Street, St. James's, S.W.

220 1898. Monro, Horace Cecil; Queen Anne's Mansions, Queen Anne's Gate, S.W.

1900. Montagu, Edwin S.; Trinity College, Cambridge.

1900. Mugford, Frederick Ernest; 16 Buckingham Street, Strand, W.C.

1886. Muirhead, George; Speybank, Fochabers, Co. Moray, N.B.

1893. Mullens, William H., M.A., F.Z.S.; 9 St. James's Place, S.W.

225 1892. Munn, Philip Winchester; Laverstoke, Whitchurch, Hants.

1897. Munt, Henry; 83 Kensington Gardens Square, W.

Date of Election.

1885. Neale, Edward; 43 Charlotte Street, Portland Place, W.

1882. Nelson, Thomas Hudson; The Cliffe, Redcar, Yorkshire.

1895. Nesham, Robert, F.Z.S.; Utrecht House, Queen's Road, Clapham Park, S.W.

230 1897. Neumann, Oscar; 10 Potsdamer Strasse, Berlin, W.

1872. Newcome, Francis D'Arcy William Clough; Feltwell Hall, Brandon, Suffolk.

1899. Newman, John Leonard; Park Field, Mill Hill, Middlesex.

* 1858. Newton, Alfred, M.A., F.R.S., F.Z.S., Professor of Zoology in the University of Cambridge; Magdalene College, Cambridge.

1886. Nicholls, Howard Hill John, M.R.C.S.; Bramber Lodge, Downview Road, West Worthing.

235 1900. Nichols, Walter Buchanan; East Lodge, Mistley Green, Manningtree, Essex.

1876. Nicholson, Francis, F.Z.S.; 84 Major Street, Manchester, and Heathside, Knutsford, Cheshire.

1895. Noble, Heatley; Temple Combe, Henley-on-Thames.

1887. Norman, George Cameron, F.Z.S.; 68 Lombard Street E.C., and Mount Melville, St. Andrews, N.B.

1882. Oates, Eugene William, F.Z.S.; 1 Carlton Gardens, Ealing, W., and Savage Club, Adelphi Terrace, W.C. *Secretary and Treasurer.*

240 1892. Ogilvie, Fergus Menteith, M.A., F.Z.S.; 5 Evelyn Mansions, Carlisle Place, Victoria Street, S.W.

1889. Ogle, Bertram Savile; Hill House, Steeple Aston, Oxford.

1883. Parker, Henry, C.E., F.Z.S., Irrigation Officer, P.W.D., Kurunegala, Ceylon.

1880. Parkin, Thomas, M.A., F.Z.S.; Fairseat, High Wickham, Hastings.

1891. Patterson, Robert, F.Z.S.; Malone Park, Belfast.

245 1884. Patterson, R. Lloyd, D.L., F.L.S.; Croft House, Holywood, Co. Down.

1894. Pearson, Charles Edward; Chilwell House, near Nottingham.

1891. Pearson, Henry J.; Bramcote, Notts.

1898. Penn, Eric Frank; Taverham Hall, Norwich.

1891. Penrose, Frank, M.D.; 84 Wimpole Street, W.

250 1900. Percival, Arthur Blayney, F.Z.S.; Somerset Court, Brent Knoll, Somerset.

Date of
Election.

1886. Phillips, E. Lort, F.Z.S.; 79 Cadogan Square, S.W.

1888. Phillips, George Thorne; Wokingham, Berkshire.

1893. Pigott, Thomas Digby, C.B.; 5 Ovington Gardens, S.W.

1893. Pike, Thomas Mayer, M.A.; care of Mr. Porter, 7 Prince's Street, Cavendish Square, W.

255 1899. Pope, Walter Henry; Windermere, Salisbury.

1896. Popham, Hugh Leyborne, M.A.; 21 Ryder Street, St. James's, S.W., and Oxford & Cambridge Club, Pall Mall, S.W.

1898. Price, Athelstan E.; Broxbourne, Herts.

1893. Pycraft, William Plane; British Museum (Natural History), Cromwell Road, S.W.

1888. Radclyffe, Charles Robert Eustace; Hyde, Wareham, Dorset.

260 1879. Rawson, Herbert Evelyn, F.Z.S.; Fallbarrow, Windermere.

1894. Read, Richard Henry, L.R.C.P., M.R.C.S.; Church Street, Hanley.

1888. Read, Robert H.; 7 South Parade, Bedford Park, W.

1877. Reid, Capt. Savile G. (late R.E.), F.Z.S.; The Elms, Yalding, Maidstone.

1893. Rendall, Percy, M.D., F.Z.S.; Oxenwood, Cheam, Surrey, and Devonshire Club, St. James's Street, S.W.

265 1895. Rickett, Charles Boughey; Hong Kong and Shanghai Bank, Foochow; and care of Messrs. H. S. King & Co. 65 Cornhill, E.C.

1896. Rippon, Major George, F.Z.S.; 29th Madras Infantry, c/o Messrs. William Watson & Co., Bombay, and (temp.) 4 Portland Terrace, Southsea.

1898. Robinson, Herbert C.; Holmwood, Aigburth, Liverpool.

1896. Rogers, Capt. J. Middleton, F.Z.S.; 1st (Royal) Dragoons, and Riverhill, Sevenoaks, Kent.

1893. Rothschild, The Hon. L. Walter, M.P., D.Sc., F.Z.S.; The Museum, Tring, Herts.

270 1894. Rothschild, The Hon. N. Charles, F.Z.S.; Tring Park, Tring, Herts.

1883. St. Quintin, William Herbert, F.Z.S.; Scampston Hall, Rillington, Yorkshire.

1899. Sapsworth, Arnold Duer, F.Z.S.; Higham Lodge, Woodford Green, Essex.

Date of Election.

1870. Saunders, Howard, F.L.S., F.Z.S.; 7 Radnor Place, Hyde Park, W. (*Editor.*)

1898. Scherren, Henry, F.Z.S.: 9 Cavendish Road, Harringay, N.

275* 1858. Sclater, Philip Lutley, M.A., Ph.D., F.R.S., Secretary to the Zoological Society of London, 3 Hanover Square, W., and Odiham Priory, Winchfield. (*Editor.*)

1891. Sclater, William Lutley, M.A., F.Z.S.; South African Museum, Capetown, South Africa.

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1889. Senhouse, Humphrey Patricius, B.A.; The Fitz, Cockermouth, Cumberland.

1899. Serle, The Rev. William, M.A., B.D.: Davidson's Mains, Midlothian, N.B.

280 1900. Service, Robert; Maxwelltown, Dumfriesshire.

1899. Sharman, Frederic; Yate Lodge, Bedford.

1871. Sharpe, Richard Bowdler, LL.D., F.L.S., F.Z.S.; Assistant Keeper, Zoological Department, British Museum (Natural History), South Kensington, S.W.

1900. Shelford, Robert; Curator of the Sarawak Museum, Kuching, Sarawak, British North Borneo.

1870. Shelley, Capt. G. Ernest, F.Z.S. (late Grenadier Guards); 39 Egerton Gardens, South Kensington, S.W.

285 1865. Shepherd, Rev. Charles William, M.A., F.Z.S.; Trottiscliffe Rectory, Maidstone Kent.

1900. Simey, Athelstane Iliff; The College, Durham, and King's College, Cambridge.

1882. Slater, Rev. Henry H., M.A., F.Z.S.; Thornhaugh Rectory, Wansford, Northants.

1896. Sondes, Earl; Lees Court, Faversham.

1881. Southwell, Thomas, F.Z.S.; 10 The Crescent, Chapel Field, Norwich.

290 1893. Stanley, Samuel S.; 3 Regent Grove, Leamington, Warwickshire.

1900. Stares, John William Chester: Portchester, Hants.

1898. Stirling, William, J.P., D.L. Co. Ross; Monar, Ross, and Kinellan Lodge, Strathpeffer, N.B.

1889. Stoate, William; Ashleigh, Burnham, Somerset.

1893. Stonham, Charles, F.R.C.S., F.Z.S.; 4 Harley Street, Cavendish Square, W.

Date of Election.

295 1897. Streatfeild, Capt. Eric; 2nd Gordon Highlanders.

1881. Studdy, Col. Robert Wright (late Manchester Regiment); Waddeton Court, Brixham, Devon.

1887. Styan, Frederick William, F.Z.S.; Ben Craig, Bayham Road, Sevenoaks, and Shanghai, China.

1887. Swinburne, John; Carlton Lodge, Câtel, Guernsey.

1882. Swinhoe, Col. Charles (Indian Staff Corps), M.A., F.L.S., F.Z.S.; Avenue House, Cowley Road, Oxford.

300 1884. Tait, William Chaster, C.M.Z.S.; Entre Quintas 155, Oporto Portugal.

* 1858. Taylor, Edward Cavendish, M.A., F.Z.S.; 74 Jermyn Street, S.W.

1873. Tegetmeier, William Bernhard, F.Z.S.; 16 Alexandra Grove, North Finchley, N.

1889. Tennant, Edward Priaulx; 40 Grosvenor Square, W., and The Glen, Innerleithen, N.B.

1886. Terry, Major Horace A. (late Oxfordshire Light Infantry); The Lodge, Upper Halliford, Shepperton.

305 1900. Thorburn, Archibald; 94 Fellows Road, South Hampstead, N.W.

1893. Thorpe, Dixon L.; Loshville, Etterby Scaur, Carlisle.

1894. Ticehurst, Norman Frederic; Guy's Hospital, S.E.

1893. Trevor-Battye, Aubyn B. R., F.Z.S.; 2 Whitehall Gardens, S.W.

* 1858. Tristram, Rev. Henry Baker, M.A., LL.D., F.R.S., C.M.Z.S., Canon of Durham; The College, Durham.

310 1864. Upcher, Henry Morris, F.Z.S.; East Hall, Feltwell, Brandon, Norfolk.

1896. Urwick, William F.; 27 Bramham Gardens, S.W.

1894. Ussher, Richard John; Cappagh House, Cappagh, R.S.O., Mallow, Co. Waterford, Ireland.

1890. Venour, Stephen; Fern Bank, Altrincham, Cheshire.

1884. Verey, Alfred Sainsbury; Heronsgate, near Rickmansworth.

315 1881. Verner, Lt.-Col. William Willoughby Cole (2nd Bn. Rifle Brigade); Royal Military College, Camberley, Surrey, and Junior United Service Club, S.W.

1886. Wade-Dalton, Col. H. D.; Hauxwell Hall, Finghall, R.S.O., Yorkshire.

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Date of Election.

1881. Walsingham, Thomas, Lord, F.R.S., F.Z.S.; Merton Hall, Thetford, Norfolk.

1899. Walton, Herbert James, M.B., F.R.C.S.; Indian Medical Service, Eden Hospital, Calcutta; and c/o Messrs. King, King, & Co., Bombay.

320 1872. Wardlaw-Ramsay, Lt.-Col. R. G., F.Z.S.; Whitehill, Rosewell, Midlothian, N.B.

1896. Watkins, Watkin; Highfield, Harrow, and Wellington, Club, S.W.

1900. Westell, William Percival; 5 Glenferrie Road, St. Albans, Herts.

1891. Whitaker, Benjamin Ingham; Hesley Hall, Tickhill, Rotherham.

1891. Whitaker, Joseph I. S., F.Z.S.; Malfitano, Palermo, Sicily.

325 1887. Whitehead, Jeffery, F.Z.S.; Newstead, Wimbledon, Surrey.

1897. Whymper, Charles; 7 James Street, Haymarket, S.W.

1898. Wiglesworth, Joseph, M.D.; County Asylum, Rainhill, Lancs.

1899. Wiglesworth, Lionel W.; 42 Gloucester Place, Portman Square, W.

1894. Wilkinson, Johnson; Vermont, Huddersfield, Yorkshire.

330 1896. Williams, Capt. Lionel Arthur; Llangarran, Salisbury; 91 Victoria Street, S.W., and Isthmian Club, Piccadilly, W.

1897. Wilson, Allan Reid; Easthill, East Bank Road, Sheffield.

1888. Wilson, Charles Joseph; 34 York Terrace, Regent's Park, N.W.

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335 1897. Witherby, Harry Forbes, F.Z.S.; Heathfield, Eliot Place, Blackheath, S.E.

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1871. Wright, E. Perceval, M.D., F.L.S., F.Z.S., Professor of Botany in the University of Dublin.

1891. Wright, Thomas, M.D.; Castle Place, Nottingham.

340 1876. Wyatt, Claude W.; Adderbury, Banbury.

Date of Election.

1895. Yerbury, Lt.-Col. John William (late R.A.), F.Z.S.; 8 Duke Street, St. James's, S.W., and Army and Navy Club, S.W.

1889. Young, Capt. James B., R.N.; Ridgway House, Ottery St. Mary, Devon.

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1893. Reichenow, Dr. Anton, C.M.Z.S.; Museum für Naturkunde, Invalidenstrasse, Berlin.

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Election.
Date of

1872. Bocage, Prof. J. V. Barboza du, F.M.Z.S.; Royal Museum Lisbon.

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5 1875. Doria, Marchese Giacomo, F.M.Z.S.; Strada Nuova, 6, Genoa, Italy.

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1872. Longchamps, Baron De Selys, Liége.

1886. Madarász, Dr. Julius von; National Museum, Buda-Pesth.

1894. Menzbier, Prof. Dr. Michael, C.M.Z.S.; Imperial Society of Naturalists, Moscow.

10 1881. Meyer, Dr. Adolf Bernhard, C.M.Z.S., Director of the Royal Museum, Dresden.

1890. Oustalet, Dr. Emile, C.M.Z.S.; Muséum d'Histoire Naturelle, Jardin des Plantes, Paris.

1894. Pleske, H.E. Dr. Theodor, F.M.Z.S.; Office of the Company "Nadeshda," St. Petersburg.

1872. Radde, Prof. Gustav, F.M.Z.S., Tiflis.

1900. Reiser, Dr. Othmar; Landes Museum, Sarajevo, Bosnia, Austro-Hungary.

15 1880. Ridgway, Robert, C.M.Z.S.; Smithsonian Institution, Washington, D.C.

1894. Schalow, Herman; 15 Schleswiger Ufer, Berlin, N.W.

1900. Stejneger, Leonhard, C.M.Z.S.; Smithsonian Institution, Washington, U.S.A.

1896. Winge, Herluf; University Zoological Museum, Copenhagen.

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THE IBIS.

SEVENTH SERIES.

No. XXI. JANUARY 1900.

I.—*Field-notes on the Birds of Kerguelen Island.*

By Robert Hall (of Melbourne, Australia).

Many of my readers are probably aware that Kerguelen, also called the Island of Desolation, is situated in the South Indian Ocean, on the 50th parallel of latitude, and nearly equidistant from Africa and Australia. Lying within the Antarctic drift-current, as well as being entirely destitute of trees and shrubs, and mostly snow-clad, the avifauna of Kerguelen is limited (with two exceptions) to Orders that are able to exist without vegetable food. The two species which occupy a somewhat anomalous position on the island are the Duck and the Sheathbill, the latter being the only bird in the list which is not web-footed.

I took advantage of a summer expedition made in the sealing-brig 'Edward,' by the invitation of Mr. Hans Gundersen, and accompanied those who were engaged in commercial enterprise, in order to do what I could towards an increase of knowledge of the fauna and flora of this island, the largest uninhabited area at a distance from any continent.

Capt. Cook commenced the work here in 1776, and Sir James Ross continued it in 1840. In 1874 expeditions to watch the "Transit of Venus" were sent to Kerguelen by Great Britain, Germany, and the United States, and the best work was done at that time. The expedition of H.M.S. 'Challenger' in the same year followed. Dr. Bowdler Sharpe (Phil. Trans. vol. clxviii.) has published a summary of the work in ornithology done up to 1879.

We visited the whole eastern coast of ninety miles, except Christmas Harbour; but with only seven weeks on land (from Dec. 28th, 1897, to Feb. 13th, 1898) to devote to the varied work of collecting and observing plants and animals, minute attention could be given only to Royal Sound and Greenland Harbour.

With a favourable and warm season, I was able to collect skins of more birds than any one of the previous expeditions, and I added two to the list of 33 species given by Dr. Sharpe as found on the island. But, prior to reading this paper, it would be well to consult the reports of Dr. Kidder* and the Rev. E. C. Eaton† ("Transit of Venus"), to which this paper is chiefly supplementary. It may be added that Mr. Sclater has referred in 'The Ibis' to two or three of these species observed since 1879 in much higher latitudes.

The nomenclature here adopted is chiefly that of the 'Catalogue of Birds in the British Museum.'

PHALACROCORAX VERRUCOSUS (Grant, Cat. B. xxvi. p. 393).

My remarks on this Cormorant relate principally to five small rookeries, which were placed along one cliff a few hundred yards in extent. The birds were so tame that they walked up to and surrounded you, sometimes so closely that, when photographing a group, it was necessary to drive them back, in order that a good view might be obtained. One usually looks upon this family as "handy" with their bills, and, for myself, I keep out of range; but when my friend Mr. Evans‡ put his pocket-knife between the mandibles of one, the bird did not bite, and when he tried his fingers, at my wicked suggestion, even then no harm ensued. Only when actually pushed off the cliff-side did the birds take wing.

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* Miscell. Coll. Smithsonian Institution, vol. xiii. (1877).

† Phil. Trans. vol. clxviii. (1879).

‡ Subsequently in the South Polar Seas with the 'Southern Cross,' as Naturalist.

In the rookery the pairs belonging to each nest show mutual and constant attention, one standing and the mate sitting, while both fondle with the bill and occasionally preen each other's feathers. When a Great Skua Gull flies above a rookery in search of something to eat, there is a rising of necks and a low chorus of calls. The Skua knows the danger in a bite from the strong beak, and keeps out of reach, while it struts among the nests to find an egg exposed. At a fatal moment the Skua observes the Cormorant leave its nest, and at that instant is down and carries off a fresh egg, which is quickly cracked and swallowed whole. The Skua has the audacity to stay in the rookery, where the loss of an egg does not appear to cause any special commotion among the other birds. On that side of the rookery on which a Skua stands all birds are "faces front," and according as the position changes all the white portions of the plumage of the Cormorants are towards you, then all blacks, or, again, a blend of blacks and whites. The largest rookery observed contained about 180 birds, sitting or standing, and, with the exception of some eight immature examples, they appeared to be in the dress of maturity. The young birds were without the orange caruncles. The nests, 45 to 50 in number, each contained two or three eggs, rarely four. When I disturbed one bird from its nest, another would come and steal the lining. In passing through the closely-packed rookery the birds objected to being pushed from their nests, but offered no resistance beyond that of their own weight. A typical nest measured 13 inches extreme diameter, 8 inches across internally, with a depth of 3 inches; the lining was of marine weeds. From this rookery, for food and natural-history purposes, we carried away some 75 eggs, leaving a few clutches only (January 1st). On the 3rd of February I again visited the same rookery, and observed that the few remaining eggs had been hatched, while the young were now rapidly developing. All the soft portions of the other nests had been entirely taken away by the birds, and this part of the hill-side now appeared as if a hard brush had been passed over the place. If fishes are plentiful here, it is only a Cormorant that can catch them, for, in fact, the only fish I got I stole from a Cormorant.

A very young bird, long before leaving the nest, I found to be troubled in the same way as the adult, by having worms in the stomach.

Of the three stages that I noticed, the featherless young on December 31st, 1897, was jet-black, excepting the pink under the chin. The fledgeling, on January 6th, 1898, was black, with a tinge of grey on lower portions; forehead featherless; chin slate-blue; bill blue-black, with anterior portion horn-blue; feet brownish black, with a tinge of blue next the claws, which were blue, with tips black. Iris paler blue than in adult. In the young, when able to fly, on February 8th, 1898, the plumage varied from dark brown to metallic blue; back of neck, chest, and abdominal parts showed white; legs and feet had a faint wash of brick-red over all; bill dark bluish on lower mandible. The yellow caruncles had not yet appeared, but I noticed the yellow showing as the black feathers were moulted from the ventral surface.

While fresh eggs were in a rookery (January 9th), young, several weeks old, were maturing in other nests of the same colony. Mr. Eaton collected fresh eggs in the middle of November, and I saw them in several rookeries between the 8th and 10th of January. On the 15th of that month a large colony was about to leave its dwellings, and on February 16th the nests in a fair-sized rookery had just become tenantless, though the birds still stayed about the spot. Neither before nor after did I observe any white on the transalar fascia, although I saw hundreds of mature birds. Of the eggs, several showed such small measurements as—(*a*) 2·7 × 1·6 inch; (*b*) 2·05 × 1·55 inch; and an abnormal one had its diameter 1·2, axis 1·8 inch.

DAFILA EATONI (Sharpe); Salvad. Cat. B. xxvii. p. 278.

Although this Duck is shy at times, it is also of an inquiring mind. On January 26th Mr. Gundersen and I had been investigating the local distribution of the seals, and, having finished our lunch, we were surprised to see a flock of 18 Ducks rise in the distance and settle close to us, and when we sank into a "dip," almost hidden from their view, they actually walked to the edge and looked into our faces. When I was alone the birds were not at all shy, for it was to my advantage to go along so quietly that I always wandered among their families without giving them much concern. Occasionally I would flush one, and knew then that its anxiety was for the rest; or, if it feigned to be wounded, its device was to save a duckling, though, as a rule, the young one knew how to protect itself in the grasses. I followed one old bird for 150 yards, merely to test its deluding power, and then it gaily flew away.

I was interested in seeing Ducks at work along the tiny brooks, raising all the grass in an area of about 30 or 40 yards in search of food, or following the quickly-falling course to unearth the tender roots. I noticed them principally on low ground; they were not so numerous at greater elevations, such as Thumb Peak, 1500 feet. On the wing the note is a quack, or rather a wheezing noise. The Ducks are scared by the Skua, and rise at once when one flies over them; but the Skuas do not seem to catch them, for I never saw any of their remains. Yet they are timid birds, as I judged by noticing the effect of a falling rock below a cliff; they stretched their necks, and for some time did not continue to feed, while other species were not in the least concerned. Many nests were found in patches of *Acaena*, where they were nicely sheltered below the leaves. Dr. Kidder has observed that the eggs were generally covered with grasses by the birds when they left the nests. This applies to his finds in patches of *Azorella*, where the precaution is necessary; but among the *Acaena* it is not needed, owing to the springy nature of the grass. The eggs were never covered before the nest was left. Only the sides and edges of the nests were made of down, as a rule; the exception was merely a hollow, scantily or not at all feathered. Generally the nests are carefully hidden, but in two cases the eggs were quite exposed, with very little down around them (December 28th). One was on the top of a clump of *Azorella*, exposed to the Skuas, according to the account given by one of our young men. The nest is made to accommodate the number of eggs. If three eggs belong to it, the internal diameter is 5 inches; if four, the diameter within is 7 inches. In two cases, on February 2nd, at Betsy Cove, the clutch of hard-set eggs was only two. When the young are hatched they remain for some time on the high land, far from any water. The specimens that I obtained were preserved.

CHIONARCHUS MINOR (Hartlaub); Sharpe, Cat. B. xxiv. p. 711.

I found the Sheathbill congregating in numbers, varying from half a dozen to 14, but I once saw an isolated pair. This shore-loving bird is a pest alike to Penguins and Cormorants. One of my photographs shows an adult Penguin about to feed a young one nearly of its own size. Both are standing in company with a Sheathbill, and just as the young Penguin is bending forward to take a dainty morsel from the mouth of the parent, the Sheathbill jumps upon its shoulders, both bend forward, and the longer neck secures the prize. The second case is rather more serious; for, having disturbed a pair of Gulls from their nest, I started to photograph the subject. In the meantime a pair of the Sheathbills came up and quietly pecked a hole in one egg; naturally the chick called out; the hole was then increased and the chick hauled forth, and piece by piece eaten in a few minutes. All this time the very shy Gulls were looking on. The same kind of apparent crime takes place with the Cormorants. One pair of Sheathbills always haunts a rookery, and, going quietly in and out among the Shags, they pick up what they can. Eggs they go straight for, and they seem grateful to a stranger who disturbs the colony, for then comes their special opportunity. I have seen the Sheathbills walking round a nest of feathered young Cormorants as if they expected to be allowed to take a bite from the wing of a young one, and they would have done so, if no defence had been made. While seated on a thoroughly uncomfortable rock, one of a pair approached me.

It pecked at some hard biscuit, but could do nothing with it; then I blew out a scrap or two from my mouth, but the noise seemed strange to the bird and it retreated; soon it came back, tried one of the scraps, but did not swallow it; next it attacked my boot, but left immediately and again tried the scrap of biscuit; after which, with one or two close looks into my face, it walked away. These typical acts of inquisitiveness lasted from 10 to 15 minutes. A sudden meeting with a few of these birds does not seem to frighten them. I surprised 12 of them at one time, but they simply gathered round me. If I moved my legs, the birds quivered a little, but immediately recovered themselves. A Sheathbill does not indulge in eight hours' consecutive sleep, as I judge by having had one staring into my face in the early hours of the morning, for at least an hour, it seemed to me, while camped beneath a rock. This bird is knowing enough to put its own eggs under cover, and will either get well into the rock-crevices or use a burrow made by one of the larger Petrels, if one is to be found close against a great boulder. The eggs, which vary, are always exposed to the light near the entrance, and are deeply coloured. As soon as the sitting parent hears a noise near the nest it jumps off to see what is the matter, and just as quickly does the young one get away from the nest into some hiding-place. This accounts for seeing so many empty nests in February.

The nest is circular, neatly made of seaweed, or sometimes grasses, if grass be near. One nest, made of roots of *Azorella*, was placed 30 inches down in a Petrel's tunnel, some 7–10 inches from the house-path of nearly every nest. The pair referred to previously chose a mile of beach without large rocks, consequently they used a Petrel's earthy nest in the cliff—the only one like this in a dozen nests found by me.

My first find of eggs, three in number, was on the 29th of December, but eggs were mostly fresh until the 27th of January; on February 13th the eggs had well-developed embryos. I found the first young one on January 29th, in one of some 20 nests observed on Hog Island, in Royal Sound. This nestling was bluish, intermixed with brown down; legs and feet bluish; nails black; bill dark horn-colour, with tips of mandibles cream. The eggs were generally two and sometimes three in number, but occasionally there was only one. The measurements of 15 specimens ranged between 2·2 × 1·5 inch and 2·4 × 1·6. As a large series of eggs shows much variation, I give below the descriptions of four types :—

(*a*) Creamy-white ground, with small, thin, purplish blotches appearing as if beneath the surface. On this surface are light to deep brown irregular blotches of nearly the same size, occupying about one fifth part, and being more numerous towards the larger end.

(*b*) Base creamy white, with streaky grey-slate smears on it and some heavy brown blotches. The ground-colour is visible only on about one third portion of the egg.

(*c*) Creamy-white ground, with bold blotches, varying from black to brown.

(*d*) This and the preceding (*c*) are the standard types of some 30 eggs observed by me. In *d* the ground-colour is light brown, and the irregular blotchings of umber-brown vary from light to dark. Less than one half of the ground-colour is visible to the eye.

MEGALESTRIS ANTARCTICA (Lesson); Saunders, Cat. B. xxv. p. 319.

More details of the field-life of the Great Skua have been written than on any other bird of the island, yet there are more to follow. When one bird tries to kill and eat its wounded mate, and a pair promptly did eat one of their own young ones which had been killed, it will be agreed that the term "Vulture-Hawk" is not misapplied to it. Both these occurrences were observed by the writer. Like previous observers, I was, at first, continually mistaking this web-footed bird for a Hawk. It pesters all other birds while on the wing, and the rabbits are harassed beyond endurance. I have seen it worrying Albatrosses and Petrels at 1100 miles from shore, to the eastward of Kerguelen. There the Spectacled Petrel made its clear treble notes heard in protest, and the Mollymawks (*Diomedea melanophrys*) would settle upon the water to escape further molestation.

As for any danger that rabbits might overrun the land, the Skuas settled that point long ago. I know that the Skua is a good rabbiter, for not only did Mr. Gundersen and Mr. Brechen see a rabbit being carried through the air and a Skua doing battle with a full-grown one, which, however, escaped, but also I counted six dead rabbits under a stone at the mouth of their burrow. As for skeletons, they were everywhere, and appeared far more numerous than the living animals. I never saw a live rabbit unless it was running straight for a definite point, so dreaded is this Skua and so quick are its movements. As for stealing the spoil of our guns, it was incorrigible. At lunch one day, with a freshly-killed Duck lying behind one of the sportsmen, a Skua stole quietly up and ate the flesh and nearly every bone of it, and all this within five feet of us. On another occasion, two of our men, with the second officer, wounded two Ducks. One of these was about to be picked up, when down swooped a Skua. It was at once severely struck on the back, and that Duck was dropped, but, continuing its flight, the Skua seized the other Duck and escaped.

So interested is the Skua when gorging itself on a seal, that it goes in head and shoulders, and soon becomes of a sanguine colour: so unconscious of surroundings is it on these occasions that one was caught with the hand. Another was trying to keep its place upon a living seal's back, while the animal was endeavouring to bite it and shake it off; but perhaps the seal had a wound on its back filled with crustaceans, as was the case with one which we had previously observed. Large pieces of seal's flesh are swallowed by the Skua on the wing. It jerks a piece upwards to get a better hold, and then gulps it down; while, if the prey be too large to be carried far, the bird will settle on the water or the ground, and although Gulls flock round, there is no interference. With the Gulls, in fact, the Skua agrees very well.

A photograph of a Skua sitting on its nest was taken as if at the bird's own request. I had focussed the eggs, and was about to open the shutter, when the Skua settled upon the eggs within five feet of me. The nest is rude, and measures 15 × 12 inches, with a depth of 4 inches. Broken bones and eggs are scattered around it, but not in any ornamental way. The young are without spots in the fledgeling stage. They are early taught to leave the nest on signs of danger, when they will crouch in the grass a few yards away. In this stage they are brownish grey, with black bill and slate-coloured legs. When the young are nearly as large as the parents, and are ready to learn to fly, they exercise their legs by jumping directly upwards a few inches, with wings expanded against the wind, and this antic is accompanied by a jerky, continuous, and plaintive high note. Most of the nests contained young birds by New Year's day. One nest was supported by a whaler's wooden tomb-memorial on Grave Island, Royal Sound. I did not notice any yellow on the nape and neck of the young, indicative of a connection with the *M. maccormicki* of the Antarctic region proper.

LARUS DOMINICANUS Licht.; Saunders, Cat. B. xxv. p. 245.

Royal Sound is the principal haunt of the Southern Black-backed Gull, and no other harbour here compares with it for numbers. I say this after visiting the most important shelters on the east and south-east coasts, where we found this Gull far from plentiful. The killing of seals soon affords a sure indication of the relative abundance of this species, as at this season the birds of each fjord keep to themselves. I think they fear to venture far out in the open, for they are not very strong on the wing, and when a storm arises they invariably float on the water, keeping within the kelp, which grows a mile out from the beaches. In this way hundreds may be seen, riding-out a gale. For variety of position the bird will stand for some time upon the kelp, and to do this it does not fold its wings for a while, but, like a boat under sail, it will incline forward, until a sure footing on the weed is obtained. It maintains the usual reputation of the sea-bird for clamour, and the clear echo of its calls may be heard resounding from the heavy basalt cliffs of Murray Island.

The young crouch on the rocks for evasion when a human being passes, and the whole flock call from above as if they had the melancholies. Even when the young birds are as large as their parents they hide under rocks for protection, but soon become impatient and start for the water. So dark in colour are some, that one of our men took one for a young Skua; but others show a lighter mottling. I think the birds hatched in December assume a dress similar to the adult about February to March, but not so much contrasted. On December 27th the young were scarcely noticeable amongst a flock. On January 17th they were plentiful on the wing. On February 15th I noted a flock of some fifty young marbled birds, and they were then more numerous, though not so conspicuous as the adults. I conclude that the young assume the plumage of the adult in one season.

Previous expeditions have noted eggs as early as October 14th, and I found them fresh as late as January 16th. This latter "find" was on a small, low, flat island next to Suhm's Island. From it we gathered seventeen fresh eggs and observed thirty nests. Four of the nests had each one egg (not unusual), most had two eggs in them, and two had each three eggs. One clutch of two had one heavily and typically blotched, while the other was quaintly scrolled. On this islet of a few acres there were no Sheathbills, which would be a relief for Gulls, and there were no Petrel-holes, so it was quite a Gulls' paradise, although an occasional Skua visited it. The nests were in the seaweeds just above the high-water mark, with one exception which lay in the grass in the centre of the island. Usually I found the nests placed upon flat rocks sheltered partly by others.

STERNA VIRGATA Cabanis; Saunders, Cat. B. xxv. p. 50.

This little Tern does not go far out to sea, and it is a taker of crustaceans rather than of fishes, the latter being distinctly scarce. Upon observing the repeated dives of some of these Terns I asked a gunner to shoot three, and found upon dissection that they contained small rectangular-shaped crustaceans in abundance; but along with other birds even the Terns came down to taste seal's flesh and seemed to relish it. I generally observed them in flocks of about a dozen, but on January 26th I was interested to see forty birds in two divisions, closely associated. These were early breeders. At 8.30 P.M., in company with Skuas, they would pass our anchored ship in their wanderings over the waters of the harbour, and until the sun set they showed little inclination to retire to slumber.

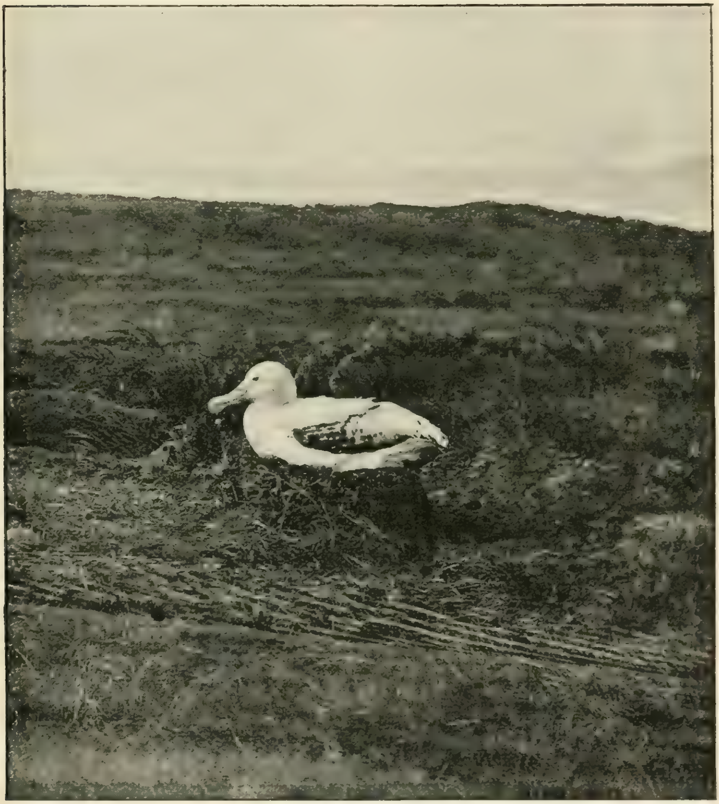
The Tern is very watchful of its egg, and I have seen two Skuas driven away by it, first one and then the other being attacked. Our captain, Steensohn, shot a Duck which fell dead into a lake, and the Terns kept on pecking at its body until the wind carried it beyond the vicinity of their nests. I found them breeding upon high ground, several hundred yards from a beach, as well as only a few yards from high-water mark, and they not only place their nests in different positions but construct them in different styles. These are commonly placed upon a flat bed of sand and rocky ground, more rarely upon a sandy part of the beach, but on one occasion among the *Acaena* plant without a nest (February 7th). The sandy and rocky ground afforded hollows for the single egg, in each case; while on the shelly beach the nests were of dry stalks of seaweed. A saucer-like nest of this description had a full diameter of 4 inches, with a depth of 1 inch. Fresh eggs were gathered up to January 18th, on which date seven specimens were obtained; and on this day I observed eggs in place of those taken by me on December 30th. On January 4th I saw the first mottled young one flying with a flock; its call was different from the harsh treble note of the adult, and was a pleasant short trill. On Januury 25th in Greenland Harbour I noticed a young bird that had lost all its barred feathers, and had the head, bill, and feet black; otherwise it was much like the parents, and by next spring the "soft parts" would be red. The second officer of the ship assured me he had just seen (January 27th) a black bird in many respects like this Tern and associated with it. Its plumage was lustrous black, and so were its bill, legs, and eyes, but such a bird I did not meet with.

DIOMEDEA CHIONOPTERA Salvin, Cat. B. xxv. p. 443.

This great Albatross is whiter and even more elegant than *D. exulans*. My first observation of it was in a harbour.

There seemed to be a squabble on the water for food, and while the little Wilson's Petrels gave way to the Cape Petrels, the latter, in their turn, yielded place to the Black-browed Albatross, yet all moved away for this great bird, apparently impressed by the strength of its bill.

Fig. 1.



Diomedea chionoptera on its nest.

Altogether Kerguelen Island possessed five species of the family, four of which followed the ship at one time, and I observed colonies of three species.

This bird at home is an entertaining host, and I was delighted to make the acquaintance of one with its wife and family under very favourable circumstances. It is quite sociable, and those off duty are specially communicative when they have nothing else to do. A pair will face each other and engage in a conversation that is hoarse but not jarring; and this they vary considerably, going to the lowest and trying to get to the highest notes without spoiling the effect. It is certain that they like to communicate with each other while they are gracefully standing or walking. One day I was basking in the sunshine on a hillside, watching fifteen sitting Albatrosses on the slopes of some hillocks facing each other (see fig. 1, p. 13). Occasionally a bird would alight after a little wheeling, but with widely parted legs to make sure it would come down correctly. Albatrosses may be ungainly on a ship's deck, but they are very majestic in their nesting-places, and I could not but admire their stately walk. My attention was attracted by a group of four birds which were gracefully billing each other. Now and then one would extend its wings as if to embrace the other, while afterwards they would sit down opposite and bill again. Two of these were birds of last year, and two were adults, while on two nests within a few yards adults were sitting. This family circle charmed me, and I at once put away the story of how old birds cruelly drive away young ones from the nests, when the latter are old enough to leave. Here were the eggs of this year, the young of last year, and, presumably, the parents of both. I have seen an adult run thirty yards with fully extended wings and then leave the level ground, while another ran only three paces with outspread pinions before rising from the flat ground. The feathers of the immature birds in this group were dark on the crown of the head, while those on the back and head were not pure white but like those of *D. exulans*; though otherwise these birds of one year old were similar to their parents in appearance. The birds now incubating were in the quartette arrangement or in pairs, so that they always had company to talk to and to bill with. In each set there were young birds. Later on I saw eight birds closely assembled, four of which I considered mature and the other four young. One was quite brown, with perhaps a little white on the face, but the others were blotched with sombre colour on their necks. Here were four nests with sitting birds within one hundred yards, so that four families were amicably engaged in the task of incubation and enjoying meanwhile each other's company.

In the month of February, out at sea (102° E., 43° S., February 2nd, 1898), I noticed an Albatross which looked like a link between this uniformly brown young bird and the almost mature white-necked one. It was dark brown, except the bill, face, cheeks, and throat, which were white, with two white lines of feathers in the wings close to the body as it floated on the water; the under sides of the wings had two wide bands of bluish-white and black. It was a piebald bird, and the only one seen by me throughout the trip. This was most likely a last season's bird, late in its moult, but not so late as the very brown one. These three stages may be normal, and probably are such. As to how the young learn to fly, my opinion is that they simply tumble out of the nest and practice their legs and wings until they can fly from the flat ground. The nests are promiscuously placed, and cliffs are less favoured than undulating ground near a low beach. When a Skua hovers above them, the sitting birds look defiant and clatter their mandibles.

In three distinctly large colonies, and also in isolated pairs, the nests were usually within 50 feet above sea-level. The largest group was near Mount Campbell, where we handled some 80 eggs and observed many more in the distance. On Howe Island, off Kerguelen, I examined some 30 nests with eggs. At the Prince of Wales's Foreland were more than 25 nests; while solitary nests were noted on Long Island, in Royal Sound, and on the adjacent southern beach.

Several of these nests were quite hidden from a view of the sea, and extended inland half a mile, where ridges and small freshwater lakes intervened. They are made up of peaty grass interwoven with fibrous earth. A typical nest measured: breadth 37 inches, diameter of bowl 18 inches, depth of bowl 5 inches. The floor of this bowl would be about 2 inches deep, as all was simply matted with the natural short grass, and appeared as if merely placed upon it. Many nests are raised $1\frac{1}{2}$ feet. Some have well-trimmed sides of earth and are conical, but they are in the minority. Nests of last year still remained among those of the present, and some of those tenanted were simply additions to those of the past season. The nests may be within two yards of each other to the number of three or four, but generally they are many paces apart, and continue in a line along the higher grounds of the beach.

On the 15th of February I observed some 30 nests, all with half-incubated eggs. The first fresh eggs were noted on New Year's day in a rookery of 25 nests, but several nests were still without eggs on the 3rd of January. Two of the sitting birds photographed were not mature. In one case the back was barred, and in the other the wing-coverts were far from being white. I observed sitting birds in three stages of plumage, in what I would be inclined to think the second, third, and fourth years of age. The skin prepared by us does not quite agree with Mr. Salvin's description in his key (Cat. B. xxv. p. 440), for the scapulars are not "faintly banded," while the only flush of pink on the bird was over the left eye, and even this was scarcely visible. The above-mentioned skin I presented to the Hon. Walter Rothschild for his museum.

On the 15th of January an egg was taken from a nest, and eight days later I saw the bird still sitting on its nest. It seemed a long business. When eggs are taken from the nests, the birds quietly get on again and continue to sit. One egg weighed 1 lb., and measured 5·25 inches by 3·20 inches, and this was the largest found. A smaller egg was broken in the nest by one of the ship's crew, and forty-eight hours later I observed that the bird was still sitting with its feathers damped and soiled. The date was written on this egg, and it may remain a long while in the nest. We found the male bird taking part in the incubation. On the bird killed and preserved on February 14th several lice remained alive in the plumage, until they were bottled on March 23rd.

DIOMEDEA MELANOPHRYS Temm.; Salvin, Cat. B. xxv. p. 447.

The Black-browed Albatross seems to me to have a voice like the bleat of a sheep. Near the South Head of Greenland Harbour an opportunity was given me to see a magnificent rookery of this species. The cliff faced the east, and was, roughly, over 700 feet high. The birds were dotted upon it to a height of about 400 feet, where an incline led to it; but in other directions the cliff looked precipitous, bold, and forbidding. I counted 40 to 50 birds in a flock on the water, just in front of the nesting-ground; but this number was proportionately very small, and there must have been from 500 to 700 birds in the mass of whitened spots. Individuals flew off and on, associated into groups and separated, lodged on the water and quickly left it, all the time displaying their very elegant flight. Although I had spent three days in visiting the islands and the mainland, in search of this rookery, I could not see it until I was sailing within a few hundred yards, and quite opposite it [*].

Captain Steensohn hooked two of these Albatrosses for me. One was caught by the leg through quarrelling with another; while the second was captured by the beak, which does not often occur, owing to the bird's bump of caution, for the bait is nearly always dropped at the first pull and the barb of the hook does not usually hold. On throwing a large piece of fat overboard, I noticed that each time the bird tugged at it the open wings jerked forward and the tail flicked upward. Although this mass of birds was so near a large harbour, more than three or four were seldom seen inside it at one time, and very few appeared 30 miles west of the colony. From this I concluded that this Albatross is very local in its distribution, and finds its food straight out from the shore.

We kept one alive on board from 5 A.M. to 8 A.M., and when released it joined a mate with apparent good humour and rested upon the sea. At this time of year "billing" is the order of the day, and this is a strong characteristic of the Albatrosses of these waters. There is a bond of sympathy between the birds, judging from the fact that one wounded in the wing by us in the harbour had swum round to the rookery (about three miles), and was there found resting upon the water, unable to fly. The others left it when we approached.

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[*] [The discovery of a breeding-place of this species is interesting, inasmuch as the Black-browed Albatross was not ascertained by the 'Challenger' Expedition to nest on Kerguelen, although two specimens of it were obtained there.—EDD.]

THALASSOGERON CHLORORHYNCHUS (Gm.); Salvin, Cat. B. xxv. p. 451.

Of the Yellow-nosed Albatross I saw no nests; but birds were observed near the entrance to the harbour of our last anchorage (Fuller's). Suitable lofty islets were near this coast, and the birds in adult plumage would probably be breeding there, or on the cliffs to the southward of Christmas Harbour. This species makes an addition to the list of Kerguelen birds.

PHŒBETRIA FULIGINOSA (Gm.); Salvin, Cat. B. xxv. p. 453.

In its adult stage the Sooty Albatross is well known to naturalists. Its habits upon the hills at the time of nidification require no particular mention. A trumpet-like screech and cat-like noise seem to be the vocabulary of this bird, as it wends its curving flight along the face of the cliffs, in the lower parts of which it places its nest. January 5th saw me investigating three nests on Murray Island in Royal Sound. Two were within three feet of each other, while the third was several hundred yards away, but all were placed under ledges of rocks some 300 feet high and facing the sea. The first nest contained an egg which was undoubtedly addled, as I became aware when blowing it, and so were the other persons in the cabin; yet upon this egg the bird still sat. Two nests placed together contained, respectively, a young bird a few days old, and an egg with an almost matured embryo. This egg I took, and five days later I annexed the young of the other nest. All this time the egg-nest was still being sat upon by the Sooty Albatross. The young one, when left by its parent, stood up to assert its rights, and snapped its bill in the manner of the adult, but feebly. A Cormorant's fresh egg, partly broken, was near, so the little gallant lived well in the start of its career, and disgorged enough food in a mass to give a meal to half a dozen ordinary birds. The general hue of the nestling was slate-colour; the bill slate-black; legs bluish; iris faint hazel, and pupil blue. The ring of white had begun to show round the eye. The nests were neat, saucer-like, and of fine fibrous loam, caked. The dimensions were:—breadth 17 inches, diameter of cavity 12 inches, depth of cavity 3 inches, depth of structure about 4 inches.

These observations were made on January 5th. I was not able to recognize Prof. Hutton's subspecies *P. f. cornicoides* (Ibis, 1867, p. 186) in these sitting birds, although, later on, I observed some on the wing that appeared to be greyer on the back and abdomen. At sea, some 300 miles east of Kerguelen, I noticed (February 20th) many specimens with the nape of the neck white, and I think these were immature birds.

OCEANITES OCEANICUS (Kuhl); Salvin, Cat. B. xxv. p. 358.

The yellow-webbed Wilson's Petrel is a delicate creature that goes straight to sea in the early morning, and comes back to the rocks in the gloaming. Most of my time was spent among the stones below 1000 feet, where this Petrel is to be found in great numbers by diligent search. At 1500 feet (Thumb Peak) one flew from the boulders in the daytime, which showed that a nest was there. Having returned from the sea into the harbours at dusk (8 P.M.), Wilson's Petrel is then to be seen, flying to and fro before a ridge of rough-looking rocks. At 6 P.M. I observed (February 2nd) a gathering of from 50 to 60 birds off the South Head of Greenland Harbour. Generally they are unassociated until they come in towards night. They are seldom to be seen on land in the daytime, and I only once noticed a bird flying up and down a part of a valley of stones, more than a mile from the sea, and a creek, which led from this highland, had encouraged the bird to go there. It reminded me of a Martin collecting insects. Having sat down to finish a piece of buttered rye-bread, I observed the bird alight on a jutting mass of loose stones, and this led me to remove the stones from the entrance to the nest and to discover a delicate egg.

At about 8 p.m. the croaking begins, for now the "night-shift" has come in from the sea to go on duty. Many congratulations seem to be exchanged. Go straight to a wild-looking piece of the coast if you want nests. Look under large or small slabs of stone or within the crevices in the cliff-sides. Most of the nests are saucer-like, and neatly put together with loose twigs. Your shovel will act as a lever to lift the slabs and expose them, when the sitting bird will move away to the farthest corner to escape the light, never offering to bite, although the act would be harmless. At 7 a.m. I have found the male bird sitting on the egg, indicating, in this case, that it will sit out the day. A male also flew on board on one occasion during the night, which probably meant that it had a mate sitting on the nest. Thus the male possibly sits either day or night. At 8 p.m. I have taken both male and female from a nest which was in an earthen bank and had an entrance and an exit.

The nests of this species were built principally of *Azorella*-stalks. They were flat, in a shallow indentation beneath a stone, and had no definite tunnel running to them. The bird would sometimes scratch an entrance. A typical nest measured 7 × 5 inches, and the depth of the bowl was 5 inches. On handling a bird, it will (like other Petrels) eject a fatty globule, for a distance of 2 feet. I used to track the sitting birds between 8 and 10 p.m. by their strong but mellow note. One evening's search produced seven nests containing young and eggs. The eggs differ very slightly in size: six measured 1·3 in. × 0·9 in. On February 3rd I found three eggs (fresh and hard-set); on 7th, 8th, and 9th, four fresh eggs, seven young nestlings, and two hard-set eggs; on the 14th one hard-set egg. The egg has an almost true oval form, slightly wider towards one end, around which was a circle of pale pink spots. The nestling was covered with a uniform greyish-black down. Bill black; legs bluish, tinged with faint yellow; webs bright yellow; toes faint black; nails black. The parents sit with the young during the night.

We found this species numerous in all the five harbours visited by our brig.

CYMODROMA MELANOGASTER (Gould); Salvin, Cat. B. xxv. p. 364.

I was not able to find the nesting-place of this Petrel, but it was somewhere at the north-west end of Royal Sound, and our ship lay at the opposite corner while in this harbour. The bird was seen at both ends of the island, but not in the same numbers as the yellow-webbed Wilson's Petrel.

MAJAQUEUS ÆQUINOCTIALIS (Linn.); Salvin, Cat. B. xxv. p. 395.

Our first sight of the Spectacled or White-chinned Petrel was 280 miles due north of Kerguelen island.

On Murray Island, in Royal Sound, while watching Teal, I saw an example of this Petrel pass and repass several times a small waterfall, and, to my astonishment, it finally settled down in the shallow water and waded under the ledge of the bank. A little digging in this thoroughly sodden ground brought me to the nest, and I soon found out that a White-chinned Petrel bites severely. The male bird takes part in the incubation in the daytime, but also leaves the egg to itself for a considerable time while in the early stage of development; and this I observed also in Greenland Harbour.

Besides cephalopods, the food of the birds seems to be kelp, which I noticed on opening one specimen. Gould remarks that the yellow markings on the bill of this Petrel are particularly defined in Australian specimens. I observed that one of our Kerguelen birds had yellowish-blue horn-colour predominating over most of the bill, with a ridge of black along the lower mandible, and one-third of the upper mandible from the nostril was also black.

There is a peculiarity in the breeding of the bird. Of eleven nests found only one was in dry ground; the others were in hill-sides, down which snow-water ran at all seasons of the year. The earth was simply saturated with water, and in it were tunnels, always beginning under a small cascade, and running back for a distance varying from 5 to 8 feet. In one instance I dug 11 feet to reach the egg. The holes are in groups of from three to six, judging from four colonies examined by myself. At the end of a crooked tunnel is a semi-spherical cavity with a flat floor covered with water, and in the middle of this space is a raised circular bed of rootlets, saucer-like, inverted, with an indent just above the water-level. In this nest lies the single egg, measuring about 3·4 by 2·2 inches. The diameter of one cavity surrounding the nest proper was 22 inches one way and 19 inches another, the height 6 inches; and of the nest proper the diameter was 13 inches. Broken sprigs of grass in water at the tunnel entrance are indicative of occupancy. Dr. Kidder obtained a young one on September 15th, and an egg on December 16th.

Early in February I secured fresh eggs, but found that by January 27th most of the eggs were much incubated, while some nests contained young. In three examples of the nestling the down was uniform slate-brown on the throat. The sitting birds in three cases had white chins only, while a fourth had white blotches on the cheeks. Throughout our sojourn on or near the island I did not see a typical Spectacled Petrel. I may mention that, like Dr. Kidder, I saw birds flying about without any of the white on the chin which is characteristic of this species. I distinctly observed one (as it settled to pick up scraps of seal-meat near the ship) which looked exactly like *M. parkinsoni* of the New Zealand seas, a species which has not been hitherto recognized as a frequenter of Kerguelen.

Priofinus cinereus (Gm.); Salvin, Cat. B. xxv. p. 390.

Specimens were not obtained, but these birds often wheeled astern of the brig; more after the style of the Albatross than that of the smaller Petrels. One, when we were stopping from full speed to pick up something from the water, showed blotches of yellow on the under webs of the toes, which were rapidly opened and shut, but otherwise it presented the recognized characters of the Great Grey Petrel.

Œstrelata lessoni (Garnot); Salvin, Cat. B. xxv. p. 402.

My first notice of this rare white-headed Petrel was on the 30th parallel, immediately to the north of the island. "Mutton-birding" in Kerguelen is quite a different matter from what it is in Victoria. In the first place, a hooked stick is of no use, as the holes are never straight, and, as they penetrate to some 5 feet distance, the digging is difficult work; besides, the nests are few and far apart.

I found that both sexes of this species take part in incubation in the daytime, a male sitting in one case and females in others. From a nest which contained a nestling I took a parent bird, which spat at me in a very nasty way from its bill. It has not been recognized as usual with this Petrel to attend its young in the daytime. Cuttle-fish seem to be the favourite food, as I always extracted a large quantity of tiny mandibles from the very small stomachs of these Petrels.

As I had gathered from Dr. Sharpe's report on the birds of this island that the coloration of the foot of this species had not been carefully recorded, I noted in January the following colours in seven birds:—Outer toe: all digits ebony-black. Middle toe: prox. digit flesh-white, the other two digits black, but not so black as those of the outer toe. Inner toe: prox. digit flesh-white, distal digit nearly so, with a trace of black down the centre. Webs: (*a*) between outer and middle toes the distal half is brownish black, the prox. half is flesh-colour; (*b*) between middle and inner toes the distal one-fifth is brownish black, the prox. four-fifths being flesh-colour. Nails horn-black.

Nesting takes place on dry ground on the mainland or islets, up to 100 feet above the sea-level. I got to know the homes of this species by finding feathers loosely strewed along the floor of the tunnel, and occasionally twigs of *Acaena* or dry *Azorella* in small quantities.

In nine nests found previously to 28th January all the eggs contained well-developed embryos; but a few days later I procured an egg that was tolerably fresh. On the 29th

I unearthed two very young birds, one of which was attended by its parent.

In Royal Sound on 15th January I blew an egg that was thoroughly sour and without any sign of development. This I took from under the bird.

I did not observe any of the nests to be raised, for they were in dry ground and did not need it. The egg was merely placed on a few gathered soft fibres and an occasional feather.

The smallest of ten eggs measured 2·7 × 2 in., the largest 2·95 × 2·05 in.; the average was 2·85 × 2 in.

The general colour of the downy nestling is bluish-grey; bill—posterior half black, anterior light violet; legs and feet waxy pale, webs flesh-colour, digits bluish, nails horn-black.

ŒSTRELATA MACROPTERA (Smith); Salvin, Cat. B. xxv. p. 399.

This is Gould's *Procellaria atlantica* and Buller's *Œ. fuliginosa*, and is now noted for the first time as an inhabitant of the island. It seems to lay itself open to the attacks of the Skuas more than any other Petrel, excepting the Prion, for I found nine dead birds at the mouths of their burrows in various parts of the dry and higher ground of the beach. I saw this species only at Long Island, near the entrance to Royal Sound, and on the Prince of Wales's Foreland.

ŒSTRELATA BREVIROSTRIS (Less.); Salvin, Cat. B. xxv. p. 409.

On January 25th, in Greenland Harbour, I dug out a hollow that branched in two directions at 5 feet from the entrance. One tunnel went in for another 6 feet, and contained at the end a Spectacled Petrel (*Majaqueus æquinoctialis*) upon a nest without an egg. The other branch had a dome-shaped cavity some 18 inches from the confluence, in which sat a Short-tailed Petrel without an egg. The nest indicated that the bird was a fully-fledged young one. On squeezing its breast there was no resistance, and not even a cry was uttered.

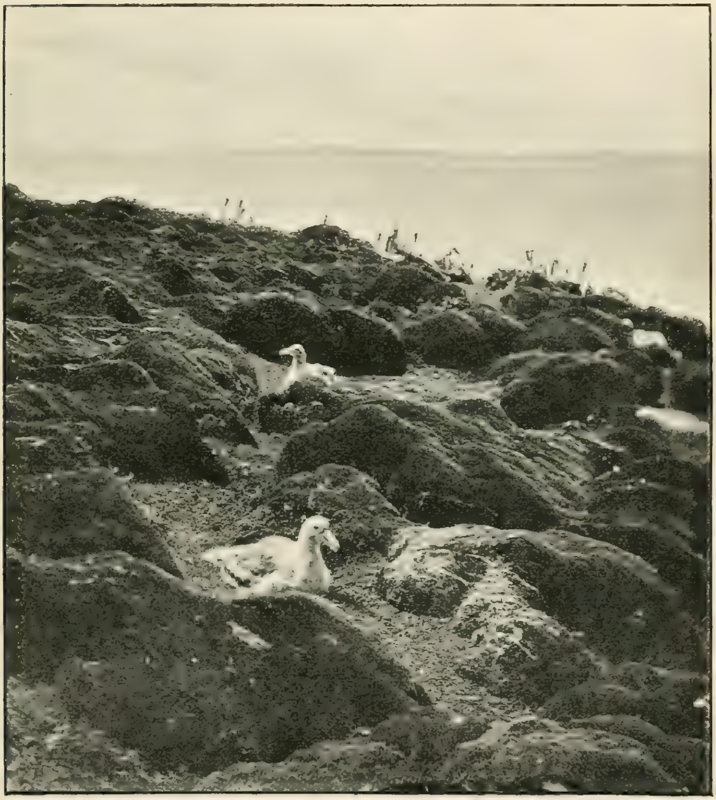
ŒSTRELATA MOLLIS (Gould); Salvin, Cat. B. xxv. p. 406.

Specimens were not obtained, but the birds often accompanied the brig. So far as I could recognize the species while on the wing, the band across the chest shows several variations in depth of colour.

Ossifraga gigantea (Gm.); Salvin, Cat. B. xxv. p. 422.

My best opportunities of watching the Giant Petrel were in the rookeries (see fig. 2), and on the feeding-grounds newly provided for it by the carcasses of seals which were lying about. They soon detect these, and assemble a few hundred yards away on the water, afterwards approaching singly, little by little, with due caution. They seem to feel safer with both wings held in a crescent form, for they can thus sooner get away with

Fig. 2.



Rookery of *Ossifraga gigantea* in *Azorella.*

their bulky bodies; and their wings are held in more varying attitudes than is the case with any other bird observed here. When frightened from the carcasses they run off as quickly as their legs will carry them to the water, then swim a short distance, and either fly or swim farther out, in a flock of from 40 to 60 birds. I do not incline to the belief that these birds have gorged themselves so much that they are incapable of flying, because many times, in the rookeries by the water's edge, I have noted them to act in this manner when they had not fed for an hour or more. Certainly, when they have worked head and shoulders into a seal's carcass and have become bespattered with blood, they object to fly unless hard pressed; but my observations lead me to consider that not flying when quietly driven along the ground is due to their habits rather than to satiety. They vomit freely when frightened. Mr. Gundersen and I, one day, came suddenly upon one that was isolated at the head of a very small bay with cliff-sides. The moment we appeared on one cliff, some 75 yards from it, the bird considered its passage cut off, and immediately started disgorging oily substances. After a short time, it rushed past us and swam out a long way. To see some forty sitting on the water, washing their heads after a seal-feast, is a striking sight, the birds seeming to be up and down just like a quantity of large brown corks; and to get force for the head dip, a little jump is made by means of the feet. Unlike the Skua, these birds run away from the banquet when disturbed, and waddle into the water, remaining there until the stranger has gone.

Since the date of the expeditions to observe the Transit of Venus, the birds of Long Island have shifted their rookery from the S.W. to the N.E. end of it. Having ascended the short eastern summit, I noticed near the bottom of a wind-sheltered slope a fine colony. To commence with, I surprised two just below the crest, and they started running with wings outstretched but not flapping, and continued, with short stoppages, several hundred yards to the beach, keeping just ahead of me. Of the colony, some birds were sitting and others standing, a few with expanded wings, and others essaying jumps on to *Azorella*-clumps of 2 feet in height. Several pairs, with stretched necks, appeared to be engaged in controversy, and occasionally a low squeaking noise was uttered. On first sight of me they moved toward the edge of the cliff; but when I sat down within 100 yards of them, they became more confiding, and many gradually approached me, not flying, and without noise. Both young and old seemed to be inquisitive, but a gun shot half a mile away would cause them to look shy for a minute. After a rest, which they often took by sitting down, they would come a little nearer. Occasionally a bird would fly over with a prolonged guttural croak. There were from 50 to 70 of them, and by appearances many young birds were already abroad at this date (January 7th). As I drove them to the beach I stumbled upon quite a strange sight: it was their rookery, and some twenty-one grey fledgelings, as large as full-grown Geese, were nestling among the scattered tussocks of *Azorella*. The nest was made by tearing away the soft stems of this plant and then sitting upon them.

On approaching a bird, which was always a few yards apart from its fellows, it would utter a low grunt, bite, and stand upon the defensive, ejecting a quantity of oily matter that would ruin almost any suit of clothes. The adults preferred to run along the cliff-top rather than fly, and I drove them like any other fowls. They have no confidence in taking wing from the land, but do so at once on reaching the water. This rookery faces the entrance to Royal Sound, and is about 200 feet above sea-level. The birds possibly lay in September. The nests, some 3 feet in diameter, are merely hollows among the broken stems of *Azorella* and in the sand, and in the former the young are partially hidden and sheltered. The rookery extended for some 200 yards.

I found several young birds which had just lost their grey down, and had assumed a shining black plumage, a phase on which I know of no observations. I do not see why this coat should be exchanged later on for what is a very poor one in comparison. I also saw this black phase 800 miles east of Kerguelen, on the return to home (February 22nd).

Near Accessible Bay on February 8th I observed many young birds nearly ready to fly. In their stomachs I found the tongues of Prions and Penguins.

Daption capensis (Linn.); Salvin, Cat. B. xxv. p. 428.

The Cape Pigeon is a fearless bird. In Greenland Harbour I observed them in flocks of from 20 to 30, and at Accessible Bay I found their nests. When seal-skins were being towed by the small boat, a flock of seventeen would sit on the water around the floating skins and vigorously peck at their edges to get as much fat as possible, using all their energy in the work, and "clucking" rapidly and tremulously.

In the flock seen at Greenland Harbour all the birds seemed to be mature, and the young must either have been still in their nests, or had moulted thus early into full dress. At Accessible Bay (Betsy Cove) on February 7th I observed four nests, each with one young one partially covered with down. The nests were in the cavities of a rough cliff, and were simply hollows, without any attempt to place weeds in them. I saw two adults sitting in a sheltered nook, without egg or young; and one of these birds was placing little stones, one by one, around it with the bill, as if to make the nesting-place comfortable. The instinct of the bird evidently is to collect something to make a nest, but it is almost lost, and the few stones in all the nests were of no use, so far as I could see. These cavities or grottoes (approximately 6 × 3 × 3 feet) were about 50 feet above sea-level, and by stooping I could get inside them, except in one case. A little climb brought me to an old bird, which clucked and made its trill; and I surprised another on its nest, but it did not fly, though it vigorously defended its young, and jumped backward and forward. I kept at a respectful distance from the young one, as it had an unknown supply of oily matter. In each of these nests was a young bird, partially in down, about as large as the parents, and in the daytime each of them was attended by one parent. The young may be described thus:—Length 12·75 inches: down, generally greyish above, greyish white below; bill black.

In Royal Sound I saw this species only twice, and then because a strong wind seemed to bring in many Petrels of several kinds.

Prion desolatus (Gm.); Salvin, Cat. B. xxv. p. 434.

Most naturalists and whalers speak of the Prions as "Whale-birds," but if the countless numbers of this dove-like species round Kerguelen had to subsist on whale's droppings they would starve. I have seen them at 7 p.m. pass into Royal Sound in a glistening white line miles long. I watched them on January 7th from 6.30 to 7.30 p.m. travelling like a line of innumerable snow-flakes in a westerly direction for their island home. It was an extraordinary sight while the sun poured its light upon the current of feathered life. Other Petrels were doubtless there, but the "under-whites" predominated. When the line started I could not say, but it ceased at 7.30 to be seen without the sun's direct light, and I did not again encounter a view. Early on the morning of December 26th, some 60 miles east of Cape Digby, we saw thousands on the glassy sea after the storm of the previous day. They rise from the ocean much like a flock of Starlings, but while the latter are conspicuous black objects, the former are silvery white.

I found that both sexes take part in incubation in the daytime in the tunnels beneath the ground. As many as three birds to one egg were seen in one hollow. Of thirteen examined, I found three were males and ten females, and all were taken off the eggs in the daytime. Two females struck against the ship's light one night, so probably the males were then sitting. From these notes I concluded that the females sit principally in the daytime. Although the nests are usually placed beneath the ground, I found one in a hole in a solid rock at an altitude of, at least, 300 feet above sea-level. By some means it was bored horizontally, and at the further end it was occupied by a sitting Prion, quite observable from without. Abundant evidence along the floor showed former occupation by rabbits (January 24th). The bowl of the nest has usually a few or many stalks of coarse seaweed in it, and in the centre several fresh stems of limp grass (*Cotula*), picked off for the purpose. Throughout January the eggs were fresh, and only two or three in thirty were much developed. In one nest I found two eggs: one was decomposed inside, caked with damp earth on the shell, and partly hidden in roots; the other was 3 inches away, with the sitting bird upon it (February 14th).

Once only did I notice an egg placed at the entrance of the tunnel. This was on January 26th, and it was fresh inside, but showed a little age outside. A Skua would probably have taken it, but for the environment of weathered shells, and I feel surprised that the Skua was outwitted. These eggs vary from clear white when fresh to a uniform dirty loam when hard-set. In one case a zone of deep brown encircled the egg, leaving the poles clear. In another several green blotches were at one end, as if caused by the succulent grass. A third egg was uniformly smudged with brown over a white base. I consider that all these eggs had originally a clear white ground-colour. The measurements ranged from 0·85 × 0·4 inch to 1 × 0·4.

In most characters my seven examples agree with the descriptions of authorities, but I find that the posterior lamellæ are visible when the bill is closed upon a profile-view; while, in the living bird, a small portion of the nail is sometimes pale yellow; this area is a little longer than broad (December 27th).

PELECANOIDES EXSUL Salvin, Cat. B. xxv. p. 438.

Pelecanoides urinatrix Coues & Kidder, and others.

We occasionally saw small flocks of this Petrel in Royal Sound and Greenland Harbour, and at first we thought they were ducklings off shore. By exposing the ship's light on a dark night the specimens obtained were attracted on board. One I released, when it fluttered some 50 yards, then dived, and we saw it no more. A female came on the deck in the dark hours with its white feathers dirty to their bases.

Pygosceles tæniatus (Peale).

Pygosceles papua Grant, Cat. B. xxvi. p. 631.

Fifty miles east of the island we were met by Penguins, and, nearer in, this species was to be seen jumping clear of the water, an element in which it is exceedingly rapid, though a slow creature on land. In their rookery these birds may be seen resting, often with the bill tucked between the flipper and the body (mostly the left flipper), while others are upon the ledges, resting upon the front part of the body. I noticed that these Penguins had an objection to going into the water when spending the afternoon on land, and when I have driven them down to the edge of a receding wave, they would rush to get back before its return. Their voice is peculiar, the expiration being several harsh notes like the bray of a donkey, while the inspiration is a trumpet-like call. I quite endorse the remarks of other writers respecting the courage of this bird, for I have seen it drive away a Giant Petrel that wanted to intrude on a company of five upon the hill-side.

In the early part of January the companies contained a large portion of young birds as large as the parents, and in one group I noted 21 young in care of nine adults. In the immature bird the white band does not extend over the head, while the bill and feet are not so markedly red. The parent regurgitates food, and the young bird thrusts its bill into that of the older one, and withdraws sustenance, after which it reposes at full length on its belly. Between Accessible Bay and Mount Campbell (February 7th) all the species had assembled in countless thousands, and still the annual mobilization was going ahead, for the breeding-grounds were not yet tenantless on February 10th, and for a week or more recruits continued to arrive. For three-quarters of a mile in length, and with a depth of 30 yards, these birds were packed; while, parallel with this mass, in two parts, a rookery of the Great Albatross, containing about a hundred nests, occupied the background.

Eudyptes chrysolophus (Brandt).

Catarrhactes chrysolophus Grant, Cat. B. xxvi. p. 641.

I secured one specimen of this species only, and that in Royal Sound, on December 27th. It had an inflammation under the base of one flipper, and one web of the right foot was torn.

Eudyptes chrysocome (Forster).

E. saltator Sharpe, Phil. Trans. clxviii. p. 160, pl. viii. fig. 1.
Catarrhactes chrysocome Grant, Cat. B. xxvi. p. 635.

I interviewed the "Rock-hoppers" of four rookeries, and observed that some of their notes were soft and low, as a prelude to a high key being struck. While the voice of the adult is generally guttural, the young bird utters a single piping note. On Murray Island the rookery contained some 160 birds, one half sitting upon two eggs, the mates in most cases standing alongside the sitters (January 2nd). On dissection it was proved that males took part in incubation. With the exception of two nests (in which the nestlings were very young), most, if not all, contained eggs with much-developed chicks, two to each clutch. The eggs agree with the description of those of the Rock-hopper of New Zealand in Buller's 'Birds.' The average measurements were 2·65 × 2·35 inches. The nests were composed of collected shingle, and apparently slightly raised, many being plastered in a rough way. Their diameter was approximately 7 inches. While taking photographs of these Penguins, I found them to be fairly good sitters, and I even tried means to get some badly positioned birds into better places.

My first acquaintance with the young was on January 2nd, when they were but a few hours old.

Stage *a.* Down light black above; ventral surface white below; head and throat intense black; flanks greyish; wings grey; bill—proximal end black, distal end yellowish white. There is a marked ridge along the abdomen.

On February the 8th, in Accessible Bay, two further stages were observed in the rookery. Although they had not the agility to hop into view and out of sight, like their parents, they moved by hopping, displaying care. On my appearance in the rookery, seven or eight of the young in front of me huddled together, and one old bird seemed to drive them into a corner by pecking. This made an excellent photograph.

Stage *b*. When in close down, about half-grown, the young is brownish black on the back, throat, under tail-coverts, and head; from the lower throat to the vent cream-white, deepening in the abdominal region; bill black, except the sides of the distal ends of the mandibles, which are greenish yellow; legs and feet chalky white in front, except the webs between the middle and outer toes, which are dark, blackish brown behind; nails dark horn-colour.

A third stage, which I observed in this rookery, corresponds with *E. chrysocome*, and perhaps belongs to the latter. There were several examples, and I feel inclined to consider it an intermediate stage; but among all the specimens seen I could not find connecting links to thoroughly satisfy myself on this point. I was rather surprised to find, as early as January 2nd, one of this stage among 160 full-grown *E. chrysocome* in the rookery at Murray Island. Why was it there by itself, among birds sitting on eggs? While preparing the skin of this bird (a male), I found it was not fatty like an adult Penguin.

Aptenodytes pennanti Gray.

Aptenodytes patagonica, Grant, Cat. B. xxvi. p 627.

King-Penguins were met with by us in all the harbours we visited, and I noted them singly or in companies of about six to nine birds. Upon the open coast our field-glasses showed great numbers in association. In the early part of January they had either concluded their moult or were undergoing it. One I saw was standing against a prominent rock, quite a mile apart from any others, and inland 200 yards from the head of a fjord, some six miles from the entrance. Feathers were strewn thickly about, and its flanks were bare. It objected to move on by order of a stranger, and needed pushing before it would shift its position. This is usually so when the bird is solitary, or if it moves it does so sluggishly; but birds in company are more active and shy, and will run well if driven when disturbed; the birds which are lying down jump up instinctively, and all huddle together. I moved a group of five as gently as possible with my foot, and one individual tumbled into the soft mud two feet below a bank, where it lay for several minutes, while its companions walked away to the beach, avoiding the freshwater-pools, into which they might have plunged and made more rapid progress. A few minutes later I returned just in time to see it ascending on all fours, continuing the amble until out of harm's way.

The delicate and conspicuous colours of the lower mandible show gradations. In a group of nine I noted on February 2nd:—(*a*) black; (*b*) ivory-white; (*c*) fleshy to coral-red. (*a*) had finished its moult, and seemed to be a young one, with a rich golden-yellow lateral mark on the neck. (*b*) was a bird of ordinary proportions, with a coral-red patch on one side of the mandible at the distal end. (*c*) was a moulting bird, but with nearly double the girth of others of the same height, and was apparently one-third heavier. Instead of golden yellow on its neck, it had white, feebly tinged with yellow, and there was no gold line on the chest. I am inclined to think that the colour-development goes from black to red. In skinning these birds I noticed the dorsal fat, where the feathers were black, was black, and in the ventral region, beneath the white feathers, the adipose tissue was white. In young birds the down remains longest on the neck and flippers, and the whole plumage is not so bright as that of the adult. The head and throat are grey, instead of black, in the mature bird.

II.—*Notes on the Birds of North-west Fohkien.*

By J. D. D. La Touche, C.M.Z.S.

[Continued from 'The Ibis,' 1899, p. 431.]

110. Pyrrhula nipalensis Hodgs.

This Bullfinch was common enough during the first two weeks of our stay at Kuatun, where we found it in small flocks; afterwards it apparently became scarce. Only two were shot in May.

If it nests in the Kuatun Mountains it must do so very late, as none of those shot by us, including one obtained on the 16th May, showed any signs of breeding. I once heard a native say that he had found the nest late in the season. On previous trips our collectors obtained examples of this species in April, May, June, September, and October. They told us that on every occasion the birds were in flocks and that they were not breeding.

The soft parts of examples shot at Kuatun are as follows:—Iris dark brown; bill light greenish plumbeous, tipped and edged with black; legs dark greyish pink.

111. FRINGILLA MONTIFRINGILLA L.

Winters in North-west Fohkien.

112. MUNIA ACUTICAUDA Hodgs.

Obtained at Shao-wu-fu in December 1895.

113. PASSER MONTANUS (L.).

Lowlands of North-west Fohkien. It does not occur at Kuatun.

114. PASSER RUTILANS Temm.

This is the mountain Sparrow of Fohkien. A pair or two build in the houses at Kuatun and Upper Kuatun, whence we have an egg taken in May 1896.

I have a clutch of four eggs taken by our men from a hole in a tree near the river, a few miles inland of Foochow. They resemble some eggs of *P. montanus*, but are much smaller. The ground-colour of three of them is a dirty white, and they are thickly streaked and speckled with pale sepia-brown over grey underlying blotches. The underlying blotches are, in one egg, concentrated about the large end; in the other two they occur all over the egg. The fourth egg is white, with a cap of sepia-brown blotches over underlying inky-grey confluent blotches. A few blotches are distributed over the rest of the egg. The shape of these eggs is ovate, with a strong tendency to oval. They measure 0·73 × 0·54, 0·73 × 0·53, and 0·73 × 0·52 (two) inch.

115. **Eophona personata** (T. & S.).

Obtained in winter and in April at Kuatun. Baun collected a specimen at Pucheng (see P. Z. S. 1890, p. 345).

116. **Chrysomitris spinus** (L.).

One specimen was shot by our men at Kuatun in October 1896.

117. **Emberiza spodocephala** Pall.

One obtained at Kuatun on the 30th April, 1898.

118. **Emberiza fucata** Pall.

This Bunting breeds on the grasslands above Kuatun. We have not as yet been able to find the nest.

119. **Emberiza pusilla** Pall.

A few were shot in the tea-fields of the Upper Kuatun Valley on the 2nd and 7th April, 1898.

120. **Emberiza tristrami** Swinhoe.

Our men shot this bird at Kuatun in April 1897, and on the 5th April, 1898, a specimen with the head in moult was shot in the same locality. It was, with some others of its kind, among the brushwood on the edge of a wood.

121. **Emberiza cioides** Temm.

This Bunting is common in the tea-fields of Upper Kuatun during the breeding-season, but we have obtained only three or four nests with eggs. The first of these, taken by our men in May 1896, contained a single egg. The ownership of this nest was not satisfactorily proved; however, I am pretty sure that the collectors did not make a mistake. The egg is a rather short ovate in shape. It is dull greyish white, scrawled round the large end with very dark brown, almost black, hair-lines, with a spot of the same colour and a large blotch of sooty brown about the middle of the egg. An underlying, but very apparent, line of lilac-grey passes under this blotch, partly encircling the egg round its centre, and there are a few other underlying lines of the same lilac-grey, with a smudge of the same colour also in the centre of the egg. A few comma-like marks of blackish brown occur among the thin hair-lines encircling the large end of the egg. It measures 0·77 × 0·61 inch.

The nest is a strong compact cup, with well-rounded edges made of grass-stems and blades and a few fine grass-roots, inside of which there is an inner cup composed of fine strips of grass. The lining is of fine brown fibre. The inner diameter is 2·1 × 2·4 inches, the outer diameter 4·5 × 5 inches at the rim; the inner depth is 1·5 inch, and the outer depth 2·5 inch. It was placed on a tea-plant about 2 feet from the ground.

Another nest containing young, taken at Foochow in July, is also a strong and compact cup, but with thinner walls than the former. It is made of coarse grass-blades, grass-stems, very fine weed-stems, and twigs, with a tendril or two, and a few bits of bracken on the outside. It is lined with fine grass-roots, some black hair, and a very little fibre. The inner diameter is $2\frac{1}{2} \times 2\frac{3}{4}$ inches, the outer diameter $3\frac{1}{2} \times 4\frac{1}{2}$ inches; the inner depth is 2 inches, and the outer depth $2\frac{3}{4}$ inches.

Mr. Rickett has a nest with five eggs taken near Kuatun in 1897, and another nest with three eggs, taken by the natives during the same year after our collectors had left, was sold to me on our arrival at Kuatun. These eggs bear a general resemblance to the one described above, but they have each a big light yellow-brown cloud or smudge, which in one egg covers the apical half, this egg being encircled round the middle on the edge of the smudge by a vandyke-brown scrawl. In the other eggs this smudge is smaller and irregular, and it is chiefly, though not altogether, on the apical half of the egg. One of these has two big scrawls of very dark vandyke-brown, and the third hair-lines and a few short and wider scrawls. The underlying hair-lines and streaks are of the same lilac-grey. These three eggs measure 0·79 × 0·63, 0·78 × 0·64, and 0·78 × 0·63 inch.

122. EMBERIZA AUREOLA Pall.

Two were shot near Kuatun in April 1897, and others at Upper Kuatun on the 30th April, 1898. Two of the latter are males in almost pure breeding-plumage.

123. Emberiza rutila Pall.

We have several adult and immature examples of this Bunting from Kuatun shot in spring and autumn. I shot on the 3rd May one of three birds that rose out of a patch of swampy grass in a bamboo-grove in the valley of Upper Kuatun. On the 11th May a very pale specimen was shot close to the village. In this bird the upper parts have faded so much that only the crown remains dark-coloured, this being of a dull reddish brown. The occiput, hind neck, and interscapular region are very pale pinkish, glossed and (between the shoulders) tipped with lemon-yellow. The rest of the upper parts are very pale reddish. The quills are very pale pinkish brown; the outer webs of the first five primaries whitish, edged with lemon-yellow; the innermost secondaries whitish. The upper wing-coverts pearly pink, with pale brown and yellowish edges and two pale bars across the wings. The rectrices have also faded to pale pinkish brown and white. The chin is dull yellowish white, and the rest of the underparts is yellow, with tinges of reddish on the breast, a few brown streaks on the flanks, and paling on the under tail-coverts to yellowish white. This bird is a female, but the plumage resembles rather that of the male of this species, especially on the breast, where there is still a single red feather. The stomach contained a caterpillar.

124. Melophus melanicterus (Gm.).

This bird appears to be a common resident species all over the Fohkien hills. At Kuatun it nests in the tea-plantations. Our men took a nest with two eggs on the 17th May, 1897. One of these eggs is an almost perfect oval and measures 0·83 × 0·63 inch. It is greenish white, heavily marked all over with brown and reddish-grey spots, blotches, and short streaks. The grey markings and a few of the surface-spots coalesce on the broad end into large blotches and form a rough but well-marked cap.

On the 13th May, 1898, I sent Chunkai to take a nest that had been found for us near the village. This nest was placed under a tea-bush on an extremely steep slope.

In front of the nest, and attached to it, is a pad of small roots and sticks, measuring 4½ × 6 inches. The nest itself is a neat cup, made of very fine roots and lined with a little coir and fine grass-stems. The inner depth is about 1¾ inch, and the inner diameter 2½ × 2¾ inches. There were four fresh eggs, resembling in colouring the one described above, but with the surface-spots not coalescing on the larger end and much smaller generally, the underlying grey spots being of a lighter and bluer tint, and, on the broad end, being in the shape of light confluent blotches, which form a light cap on one egg and a broad, but rough and light, ring round the large end of the other three. In shape they are more oval than ovate, one especially being an almost perfect rounded and broad oval. They measure 0·87 × 0·66, 0·85 × 0·67, 0·83 × 0·68, and 0·83 × 0·67 inch.

125. Corvus macrorhynchus Wagl.

A few of these Crows were noticed near Kuatun while we were there.

126. Pica caudata L.

A pair or two of Magpies were breeding in the woods near Kuatun during our stay.

127. Dendrocitta sinensis (Lath.).

Common in the forests about Kuatun.

128. Garrulus sinensis Gould.

Common about Kuatun. We found a nest on the 14th April, 1898, placed, about 10 feet from the ground, on a small yew in a tea-plantation in the valley below Kuatun. It was then unfinished. We returned on the 21st and took from it three fresh eggs. The inner nest was brought to me a few days afterwards with the remains of one broken egg in it. It is made of fine roots and measures about 2½ inches in depth, with a diameter of about 6 inches. The outer part was of moss, and was left behind, as it came to pieces on being handled.

Another nest found on a chestnut-tree behind the village contained only one egg on the 12th May.

Our men brought us a clutch in 1896, taken in May, and three clutches in 1897, taken about Kuatun on the 5th, 7th, and 11th May. Two eggs in my collection out of the clutch (three eggs) taken in May 1896, and the clutch of four eggs taken on the 7th May, 1897, are of a brownish green, very closely freckled with more or less light brownish; but the ground-colour of the three eggs taken on the 21st April, 1898, is a pure light green. The older eggs have possibly faded, although I must say that a description of these eggs, taken in 1897, gives them as being of a very pale brownish sap-green. All these eggs have a dark-brown hair-line about the large or small end. This line is easily soluble in water. One of the eggs dated May 1896 is ovate, the second is a narrow and nearly perfect oval. They measure 1·25 × 0·86 and 1·18 × 0·88 inch. Two of those dated 7th May, 1897, are ovate, with pointed apex, and the other two are nearly oval, with both ends pointed. They measure 1·28 × 0·95, 1·25 × 0·91, 1·20 × 0·92, and 1·20 × 0·90 inch. The eggs of the third clutch, dated 21st April, 1898, are a rather broad ovate; they measure 1·20 × 0·92, 1·17 × 0·91, and 1·15 × 0·92 inch.

129. Urocissa sinensis (L.).

A common bird all over Fohkien. On the 25th April, 1898, we took a clutch of five eggs from a nest placed on a tree in the valley below Kuatun. These were much incubated. The colour is a pale yellowish or greenish clay, with spots and longitudinal splashes of somewhat pale and dull reddish brown and reddish grey (underlying). The markings on four eggs are concentrated on the large end, where they form a well-marked crown or cap, and where the underlying splashes are confluent, the rest of the egg being but sparsely marked. In the fifth egg there is a broad ring round the small end, the rest of the egg, as in the others, being but lightly marked. In shape these eggs are ovate, inclining to oval, one being almost oval. They measure 1·27 × 0·93, 1·26 × 0·92, 1·26 × 0·91, 1·25 × 0·91, and 1·23 × 0·92 inch.

On the 28th April following another clutch of five eggs was taken from a nest placed on a bamboo at a height of about 20 feet from the ground. These eggs, which were very slightly incubated, have a lighter ground-colour than the above, one egg markedly so. The spots are much more numerous and much smaller. Three of them have a rough ring of reddish-grey underlying blotches under the reddish-brown spots, which are larger there than on the rest of the egg. In the fifth and light-coloured egg this ring is very slight, and the surface and underlying markings are small, there being only three or four underlying blotches. They are all broader eggs, with a tendency to being oval, except one, which is a broad ovate. They measure 1·22 × 0·95, 1·21 × 0·93, 1·20 × 0·96, and 1·18 × 0·93 (two eggs) inch. We did not take the nest, which appeared to be built in the usual style, and was a slight structure, composed of thin twigs and tendrils.

130. Cypselus pacificus Lath.

A party of these was seen near Kuatun on the 23rd April, 1898, by our collectors, who shot two examples.

131. Caprimulgus jotaka T. & S.

This Goatsucker comes to the Kuatun Mountains for the breeding-season. Our collectors brought back from Kuatun in 1897 two eggs, found on the ground by a native on the 21st May, which are, no doubt, the eggs of this species. One of these is a nearly perfect oval. It is white, marbled with brownish grey and light blue-grey, the former being surface-marks and the latter underlying. It measures 1·26 × 0·93 inch. The shell is fairly smooth and has a decided gloss.

132. Picus cabanisi Malh.

One shot on Wu Yi Shan on the 29th March, 1898. We have none from Kuatun, but it is abundant all over the lower wooded hills of Fohkien.

133. Picus insularis Gould.

This handsome Woodpecker is found in the forests about

Kuatun, where, owing to the steepness of the mountains, it is not easily obtained.

Our collectors brought back several specimens in 1896 and 1897, but in 1898 we obtained only two—a female, shot and skinned by one of the hunters, and a fine male, shot in the woods above the village. The soft parts of the latter were as follows :—Iris crimson ; bill dull greenish lead, darker on upper mandible ; base of lower mandible bluish lead ; legs dull reddish lead. The total length is 10·8 inches.

134. Iyngipicus scintilliceps Swinhoe.

I have the skin of a male labelled "Kuatun, October, 1896."

135. Gecinus guerini (Malh.).

This is the common Woodpecker about Kuatun. Our collectors took there three clutches of six, six, and five eggs on the 6th, 10th, and 24th May, 1897, and on the 12th May, 1898, we took five fresh eggs from a hole in a chestnut-tree near the village. The hole was placed some 25 feet above the ground. The parent bird was sitting, and several hard knocks were struck against the tree before she flew out.

The eggs of the clutch taken on the 10th May, 1897, are ovate, inclining to oval. They measure 1·15 × 0·88, 1·14 × 0·90 (three eggs), 1·11 × 0·90, and 1·10 × 0·89 inch. The eggs taken on the 12th May, 1898, are of a broad peg-top or broad pyriform ovate shape. They measure 1·10 × 0·94, 1·10 × 0·93, 1·09 × 0·93, 1·08 × 0·90, and 1·06 × 0·94 inch. The surface of these eggs is intensely glossy and the texture is finely grained. The eggs of the four clutches that I have seen were all much soiled, and mine were cleaned with some difficulty.

136. Lepocestes sinensis Rickett.

This is not an uncommon Woodpecker about Kuatun, but it is, as a rule, so shy that its capture is a matter of some difficulty. The cry of this bird is extremely loud and piercing, being louder at first and becoming fainter as it goes on. It may be syllabled "kwee-kwe-kwe-kwe-kwe-kwe-kwe-kwe."

One bird was seen and heard by us on the 1st and 2nd May on the wooded slope opposite Kuatun. It was, no doubt, breeding in the neighbouring forest.

I saw a young bird on the way down from Kuatun. I was first attracted by a kind of loud chattering coming from brushwood near the road, and after a few seconds' search saw a young *L. sinensis* fly on to an Oil-tree (*Elæococca*?) on the other side of the stream, where it remained perched for some seconds, then again flew down to some bushes below the road, and, after recrossing the stream, perched on another oil-tree. Finally it flew away before I could get near enough to shoot it with my collecting-gun. The parent bird was calling at the time in the woods near by, but it did not show itself.

The colours of the soft parts in this species, as taken on a male, a female and young, shot at Kuatun in 1898, are as follows:—

♂ ad. 11th April, 1898. Iris crimson; bill yellow; legs reddish brown. Total length 11·75 inches.

♀ ad. 11th April, 1898. Iris dark vermilion; bill yellow; legs greenish plumbeous; claws grey. Total length 11·4 inches. The stomach contained remains of beetles and wood larvæ.

Juv. 11th April, 1898. Iris grey; bill yellow; legs—scales brown, skin grey. Total length 10·9 inches.

♀ juv. 15th May, 1898. Legs brownish grey. Total length 11 inches. Rest as in the young bird described above.

137. Micropternus fokiensis Swinhoe.

One shot near Wu Yi Shan on the 27th March, 1898, where it seems to be frequent. It is a common species in Central Fohkien.

138. Gecinulus viridanus Slater.

This pretty Woodpecker inhabits the forests about Kuatun, but it is either very shy or very rare there, for only a few were seen by our hunters during our stay, and only two were shot. One had been collected by the natives previous to our arrival, and our collectors have obtained a few during their various trips to Kuatun.

♂. 13th April, 1898. Iris crimson; bill pale bluish or bluish white; legs light leaden green. Wing 5·3 inches. Total length 9·9 inches.

♀. 17th May, 1898. Iris crimson; bill bluish white; legs dull greenish. Wing 5·2 inches. Total length 9·9 inches. Different from the male in having no rose-colour on the crown, which is of a very pale yellowish green; the lores and sides of the face are also slightly paler.

139. PICUMNUS CHINENSIS (Hargitt).

This pigmy Woodpecker is common in bamboo-jungle on the Kuatun Mountains.

140. EURYSTOMUS CALONYX Sharpe.

Comes to Kuatun for the summer. It is said to nest there in holes of trees, while at Foochow it invariably breeds in Magpies' nests.

In 'The Ibis' for 1892, p. 478, the Foochow Roller is wrongly identified with *E. orientalis* (Linn.). If this mistake was mine, it was involuntary, my intention having been at the time to follow Dr. Sharpe's nomenclature, as all our Foochow Rollers agree with Dr. Sharpe's description of *E. calonyx*.

141. ALCEDO BENGALENSIS (Gm.).

Seen on the streams about Kuatun.

142. CERYLE GUTTATA Vig.

One seen on the 29th March, 1898, on the stream below Kuatun, and one shot in that vicinity on the 6th April, 1898.

143. HALCYON PILEATUS (Bodd.).

Two fine specimens were shot by our men at Kuatun in April 1897. It probably breeds there.

I obtained a couple of eggs in Peling (near Foochow) in

May 1897. The nest-hole was in a bank by a small patch of paddy surrounded by woods. I did not actually see the parent birds enter the hole, but one came to perch on the trees above it and another flew close by the bank where the hole was. The eggs are nearly spherical; one measures 1·21 × 1·10 inch. It is very smooth, but not so glossy as the eggs of *Alcedo bengalensis*.

144. CUCULUS CANORUS L.

This Cuckoo may be heard among the Fohkien hills during the spring, but it is not nearly so common as the following species. I have an adult example from Foochow, and three young Cuckoos taken there in autumn are probably of this species. Mr. Rickett has an adult example shot at Kuatun in May. I heard one calling there on the 15th May, 1898.

145. CUCULUS INTERMEDIUS Vahl.

This Cuckoo is abundant on the Kuatun Mountains, where we heard it for the first time in 1898 on the 4th April. The call heard at Kuatun was almost invariably trisyllabic, "hoo-hoo-hoo," and not quadrisyllabic, as at Tamsui.

The native hunters at Kuatun are well acquainted with the Cuckoo's habits, and told me, one day that we were all out together, how it builds no nest, but deposits its eggs in the nests of small birds, and how the young Cuckoo pushes the original young out of the nest. They could not tell me, however, how the hen Cuckoo managed to place her egg in the nest.

146. HIEROCOCCYX SPARVERIOIDES (Vig.).

I have an example of this species shot near Kien-ning-fu on the 4th May, 1896. It is not uncommon along the river some distance inland from Foochow, but it is very shy. We have no specimens from Kuatun; it is, however, likely enough that it occurs there.

147. HIEROCOCCYX HYPERYTHRUS (Gould).

I have a beautiful male example in young striped plumage, shot near Kuatun on the 16th October, 1896.

148. Coccystes coromandus (L.).

This handsome Cuckoo apparently summers in the mountains of North-west Fohkien. It is not uncommon in the forests near Kuatun, whence we have obtained three specimens. One in my collection was shot on the 24th May. It is said to be a late arrival.

149. Megalæma virens (Bodd.).

Very common in the forests about Kuatun. The natives say that it is a very late breeder.

150. Scops glabripes Swinhoe.

A fine specimen, collected in 1897, was sold to me at Kuatun in 1898. This is a resident species at Foochow.

151. Scops stictonotus Sharpe.

We have four birds in red plumage from Kuatun—three brought back in autumn 1896, and obtained there during the summer and in October, and one shot on the 15th April, 1897. A fifth example, shot on the 12th May, 1898, is much less ruddy, having a good deal of grey on the upper parts and breast; the lower half of the facial disk is besides entirely grey. Wing 5·65 inches.

152. Glaucidium whitelyi (Blyth).

I have an example of this Owl from the Kuatun Mountains, shot there on the 29th September, 1896. I did not notice any during our stay.

153. Glaucidium brodiei (Burton).

A not uncommon bird in the vicinity of Kuatun. Its call, a loud "clock-clock," was often heard by day in the valley below Kuatun, and I referred to this little Owl a call which we heard unceasingly at night, and which apparently came from the woods near the village. Our Foochow men, however, said the latter was not the call of this bird, but that of *Scops stictonotus*. The sound, a very loud "tiok-clock-clock," reminded us of the Chinese watchman's rattle. It went on all night till near dawn.

A specimen brought to me on the 30th March, 1898, had:—Iris yellow; bill livid greenish yellow; legs greenish grey. Total length 6·2 inches.

154. Spizaëtus nipalensis (Hodgs.).

Two examples of this species were shot by our men in December 1895 near Shao-wu-fu.

Eagles are not uncommon about Kuatun, but it is even more difficult there than elsewhere to get at them, and they are seldom seen at quarters close enough to recognize the species.

One swooped down on some of the village chickens just under our windows while we were at tiffin one day, but flew away before we could realize what had happened.

155. Butastur indicus (Gm.).

A young bird was shot on the 26th April, 1898, at Kuatun. It was one of a party of three, so the hunter told me.

This bird has a great deal of white about the head; the forehead, a wide superciliary mark, and a large patch behind the eye being white. It is a female, with ovaries developing. The stomach contained a large grasshopper, a grub, and the remains of a large beetle (*Carabus cœlestis* ?). The soft parts were as follows:—Iris yellow; eyelids orange-yellow; cere and gape orange-yellow; mouth flesh-coloured; bill black, with half of lower mandible and base of upper mandible dull orange; legs yellow. Total length 17 inches, wing 12·5, tail 7·9, tarsus 2·4.

156. Astur soloensis Horsf.

I have an adult male from Foochow, and another adult male was shot by one of the hunters close to Kuatun on the 21st April, 1898. We saw one at the latter place pounce on one of a flock of *Yuhina pallida* under our windows. It remained for a few seconds on the ground, then flew back to the forest with its prey.

The soft parts of the bird shot on the 21st April, 1898, are as follows:—Iris dark crimson; bill blackish towards the point, bluish at the base; cere orange; legs orange-yellow; claws flesh-colour. Total length 12 inches.

157. FALCO TINNUNCULUS SATURATUS Blyth.

I have a female of this Kestrel shot at Foochow on the 7th November, 1896. Our collectors shot a male, now in Rickett's collection, in the gorges of Wu Yi Shan.

We saw in this locality Kestrels which were evidently breeding in holes in the face of a cliff, and I have no doubt that these birds were of the same race as the one shot by our men. Unfortunately the birds were circling about the head of the cliff quite out of range, and their nesting-place was also out of reach.

A series of Kestrels collected by me at Foochow and Amoy shows great variety in point of size and depth of colouring. Kestrels do not remain at Foochow to breed.

158. MICROHIERAX MELANOLEUCUS Blyth.

One shot in a wood in the Kien-yang district on the 22nd March, 1898, during our journey up river.

The stomach contained butterflies and what seemed to be bees. This specimen has the white spot apparent only when the feathers are raised.

159. BUTORIDES JAVANICUS (Horsf.).

Our collectors told us that they found this species breeding at Shao-wu-fu.

160. ÆX GALERICULATA (L.).

Common on the river in the Kien-ning-fu district.

161. CLANGULA GLAUCION (L.).

A few obtained in winter near Shao-wu-fu.

162. MERGUS MERGANSER L.

Common on the rivers of N.W. Fohkien.

163. TURTUR RUPICOLA (Pall.).

Fairly common about Kuatun.

164. MACROPYGIA TUSALIA (Hodgs.).

This handsome Cuckoo-Dove passes the summer at Kuatun, where, however, it seems to be rare and not often obtained. The three examples that we have were shot on Mount David in May 1897 and on the 23rd April, 1898. The soft parts &c.

of the latter specimen were as follows:—Iris yellow, divided by a dark zone; bill black; legs dark coral-red. Wing 7·6 inches, tail about 8·2, total length 15·4. The crop was crammed with Indian corn.

The native hunters told me that formerly this Dove was common at Kuatun, and that they used to catch numbers in their rat-traps. One of these men told me that during one of our expeditions up Mount David he had seen a green Pigeon (*Chalcophaps indica?*).

165. Phasianus torquatus Gm.

The Ring-necked Pheasant is very abundant among the Wu Yi hills; it also occurs sparingly on the grasslands near Kuatun.

166. Phasianus ellioti Swinhoe.

Elliot's Pheasant is apparently very rare in the Kuatun Mountains, and is but seldom trapped by the local hunters. The tail-feathers of a male were brought to us in spring 1897 by our men, and a fine male was collected by one of the native hunters previous to our arrival at Kuatun in 1898. This same hunter said that shortly after our coming he saw another in the forest nearest the village.

167. Euplocamus nycthemerus (Linn.).

Common in the forest near Kuatun.

168. Pucrasia darwini Swinh.

Common in the Kuatun Mountains. It is met with in the bamboo-groves and more open parts of the country, as well as in the forests. One of the native hunters had found the eggs, which he said were white.

169. Ceriornis caboti Gould.

Cabot's Tragopan is not uncommon in the forests near Kuatun, and on various occasions we have received specimens trapped by the natives. Only four specimens were obtained by us during our stay at Kuatun: an adult male which had been trapped in March; a young male assuming adult plumage, trapped on the 30th March; and two females, shot by our hunters in the forests on the 13th April and the

17th May. The latter bird was sitting on her nest when shot. The hunter who secured her, happening to look up into a large tree, saw a bird looking down at him, and, taking it for a Barbet (!), fired a charge of dust-shot, which, to his astonishment, brought down a fine hen Tragopan. He at once climbed the tree and found, on an old squirrel's nest of the year before, four eggs. According to the man's statement, the nest was about 30 feet from the ground. These are the first eggs of *C. caboti* obtained at Kuatun. The natives having never taken the nest before, they were much astonished at finding it so high up in a tree, as until then they had met with Pheasants' nests only on the ground.

Of the four eggs brought to me, two were nearly ready to hatch and two were addled, one of the latter being quite rotten. The remains of the young birds extracted from the fertile eggs have been deposited in the British Museum. The wings of the young birds have quills over an inch long. One of the eggs, now in Mr. Rickett's collection, measures 1·92 × 1·62 inch. The other three measure 2·20 × 1·60, 1·95 × 1·55, and 1·91 × 1·60 inch. The colour of these eggs is buff, thickly freckled with pale brown, the freckling coalescing in places. The texture is chalky. The shape is a short broad ovate in two eggs, and ovate in a third.

♂ imm. 30th March, 1898. Wattle pink, banded with pale cobalt, the bands tinged in centre with silvery green; hairy part of wattle livid purple, spotted with orange-vermilion; legs greenish pink; claws livid grey. Total length 24·5 inches. The crop contained young leaves.

♀ ad. 13th April, 1898. Iris light brown; bill livid purplish brown. Total length 1·79 inches.

♀ ad. 17th May, 1898. Upper mandible light brown; lower mandible pale greyish; legs pale pinkish grey; claws grey. Total length 21 inches. Stomach contained acorns.

170. Francolinus chinensis (Briss.).

A pair shot near Wu Yi Shan, where this species is apparently common. I heard several calling on the low hills near Shao-wu-fu.

171. Bambusicola thoracica (Temm.).

Abundant about Kuatun. The birds were met in pairs during our stay.

172. Amaurornis akool (Sykes).

This bird occurs on the banks of streams in North-west Fohkien.

Addenda and Corrigenda to Part I.

26. Suthora verreauxi Sharpe.

'Ibis,' 1899, p. 192. *For* "the stomach contained .... reeds," *read* "the stomach contained .... *seeds*."

45. Acrocephalus agricola Jerdon.

Op. cit. p. 206. Examples in the Paris Museum of *Calamoherpe concinens* Swinhoe have been re-labelled *Acrocephalus agricola* Jerdon. *C. concinens* was founded by Swinhoe on some examples of *A. agricola* collected by Père David near Peking (Swinhoe, P. Z. S. 1870, p. 432). According to Père David, this species "breeds in numbers in all the damp spots of the Great Chinese Plain" (Ois. de la Chine, p. 252). Mr. Styan found it very plentiful at Kiukiang, where it breeds (Ibis, 1899, p. 444).

46. Tribura russula (Slater).

Op. cit. p. 206. On comparing *Homochlamys brevipennis* Verreaux with this bird, I wrote that the shafts of the tail-feathers of *H. brevipennis* were light-coloured. A careful re-examination of the type of *H. brevipennis* showed that *T. russula* is a very close ally of this species. The type of *H. brevipennis* differs only as follows from my series of *T. russula*:—The cheeks and underparts are lighter, the stems of the rectrices are *darker*, and the bill is stouter and paler.

57. Sitta sinensis J. Verreaux.

Op. cit. p. 404. *For* "and the male type of *S. sinensis* Verreaux, from Moupin," *read* "and the *female* type of *S. sinensis*, from Moupin."

60. Ptererythrus ærilatus Tickell.

Op. cit. p. 409. *For* "the inner diameter at the rim is regular," *read* "the inner diameter at the rim is *irregular*."

100. Cryptolopha ricketti Slater.

Op. cit. p. 425. *For* "legs pale lead greenish, washed with purple and greyish flesh," *read* "legs pale lead, greenish washed with purple and greyish flesh."

101. Cryptolopha sinensis Rickett.

Op cit. p. 426. *For* "The nest is placed .... on the unearthed roots," *read* "The nest is placed .... *or* the unearthed roots."

III.—*Additional Notes on the Birds of Fohkien.*

By C. B. Rickett[*].

The places mentioned in these notes are situated as follows:—

San Tu Kao and *Kieh Ning Fu.*—Situated on the Min river, in a N.W. direction from Foochow, from which they are distant respectively about 90 and 180 miles.

Ching Fung Ling.—On the hills 100 miles north-west of Foochow. See 'Ibis,' 1897, p. 600.

Yamakan and *Ah Ch'ung.*—Respectively about 7 and 14 miles from Ching Fung Ling. Yamakan (Wild Cat Valley) stands at about the same elevation as Ching Fung Ling. Ah Ch'ung I have not as yet visited. I gave the name on a previous occasion (see Bull. B. O. C. viii. p. xlvii; Ibis, 1899, p. 444) as Hachong, but have since been told that Ah Ch'ung is the more correct rendering.

1. Merula naumanni (Temm.).

I saw three Thrushes at Ching Fung in December which I believe were of this species, but they were too wary to allow of approach.

It is a curious fact that this bird, which used to be so common about Foochow on passage some years ago (*vide* 'Ibis,' 1887, p. 216), no longer passes through this district. I have never seen a single specimen in the eight years I have collected round about here.

2. Suthora davidiana Slater, Ibis, 1897, p. 172, pl. iv. fig. 1.

In December 1897 Styan and I came across a flock just outside San Tu Kao. We subsequently found them not uncommon about Ching Fung. In winter they are always in flocks, some of which consist of a considerable number of individuals. They are very active little birds, travelling through the underwood at a great pace, at times ascending to the tree-tops, and uttering a constant faint "chu, see, see, see." The stomachs of some that I examined contained vegetable matter and small larvæ.

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[*] See the last communication by Messrs. Rickett and La Touche, Ibis, 1898, p. 328.

The soft parts of several, as noted by Styan, were as follows:—Irides crimson; legs purplish brown; bill white, lilac at the base.

Thirteen specimens averaged in the flesh:—Length 3·47 inches, wing 1·96, tail 1·5, tarsus 0·65, culmen 0·35.

3. PARADOXORNIS GULARIS Gray.

I saw a good many large flocks of this species about Ching Fung and Yamakan last year. They were *everywhere*, from the tops of the highest trees down to the thick scrub, and occasionally on the ground. Their way of picking off a bud, carrying it to a convenient twig, and holding it under their feet while picking it to pieces, is very Tit-like. Some that I examined had fed on vegetable matter and insects. One had an immense number of small white grubs in its stomach, and another fragments of chestnuts.

Styan noted the soft parts of some that we shot in the previous year as follows:—Bill orange; irides brown; legs bluish green.

4. ERITHACUS AKAHIGE (Temm.): Rick. & La Touche, Ibis, 1897, p. 608.

Since my last notes were written I have obtained six specimens—three from Kuatun in November, and the other three from about Yamakan in December and January. One or two others were seen, but in dense underwood and at too close quarters to be shot at. My collector says this species is much less shy and wary than *E. sibilans.*

5. CETTIA SINENSIS La Touche, Ibis, 1898, pp. 328, 329.

I have now nearly 50 specimens of this species from various parts of this province, chiefly Kuatun and around Ching Fung.

When undisturbed it is a very tame little bird, hopping quietly from twig to twig within a few feet of one, and uttering a low "tack, tack," as it diligently searches for its minute insect prey. On the least suspicion of danger it disappears into the shelter of the thick cover it loves to frequent. I have made the following (average) flesh-measurements:—Four ♂: length 5·1 inches, wing 2·1, tail 2·1, tarsus 0·9. Three ♀: length 4·6 inches, wing 1·98, tail 1·8, tarsus 0·8.

6. Lusciniola fuscata (Blyth).

It is this species, and *not Lusciniola schwarzi*, that winters at Foochow (*vide* Ibis, 1896, p. 493). The last-named is apparently a very rare bird in this province, while *L. fuscata* is common. It frequents hedges and bushes near water, and has a quiet Cettia-like way of slipping through the cover, uttering a low "chack, chack," at intervals. It often descends to the ground to pick up food. One shot last winter was hopping about on the mud at the edge of a small creek. Its stomach contained ants, minute coleoptera, some small larvæ, and two or three tiny univalve shells.

7. Niltava sundara Hodgson.

My collector shot a female of this species on 3rd November, 1898, at Kuatun.

8. Poliomyias luteola (Pall.).

What La Touche says of the rarity of this species near Foochow (Ibis, 1899, p. 422) is so true that I may note that I shot a male in immature plumage in November last. It measured in the flesh:—Length 5 inches, wing 2·9, tail 2·0, tarsus 0·6, culmen 0·3.

9. Melanochlora sultanea (Hodgs.).

We obtained a dozen specimens at and around Yamakan in December and January. The natives say this species breeds there in holes of trees.

The stomachs of those I examined contained vegetable matter (? berries), seeds, and insects. I once heard the bird's loud and somewhat peculiar note at Yamakan. The following are average flesh-measurements:—Two ♂: length 8·1 inches, wing 4·3, tail 3·9, tarsus 0·9. Three ♀: length 7·75 inches, wing 3·95, tail 3·6, tarsus 0·9.

10. Chloropsis lazulina Swinhoe.

Styan and I met with this species near Ching Fung in December 1897. In the same month the year following and February this year my collectors shot seven specimens at

Yamakan and Ah Ch'ung. Two that I examined had fed on berries and flies. The latter (judging from our notes of the previous year) appear to be their favourite food. The following are average flesh-measurements of five specimens (three males and two females):—Length 7·6 inches, wing 3·8, tail 3·2, tarsus 0·75, culmen 0·7.

The soft parts were:—Irides and bill black; tarsus bluish grey.

11. Oriolus indicus Jerdon.

A few stragglers appear to stay through the winter in South China. La Touche records one at Swatow in January (Ibis, 1892, p. 422), and I saw a fine male near Foochow on 26th December.

12. Æthopyga latouchii Slater, Ibis, 1891, p. 43, pl. i.

This species was recorded as occurring at Ching Fung in 'Ibis,' 1897, p. 603. Since then I have received a good many specimens from that neighbourhood, and also from a place on the river only about 50 miles from Foochow.

I had a good view of a beautiful male last winter. He was perched on the branch of a small tree within 6 or 8 feet of my face, and looked a pretty sight with the sun shining full on him as he sat eyeing me suspiciously and uttering a constant faint chirp. On my making a slight movement he darted across the narrow path into the forest with a single sharp note of alarm.

A pair measured in the flesh:—♂. Length 4·3 inches, wing 2, tail 1·9, tarsus 0·5. ♀. Length 3·8 inches, wing 1·85, tail 1·0, tarsus 0·4.

13. Lepocestes sinensis Rickett, Bull. B. O. C. vi. p. 1; Ibis, 1897, p. 603.

Although only two specimens were actually obtained in December 1898 in the neighbourhood of Ching Fung, this might almost have been called the common Woodpecker of the district. Its constantly uttered "tirric, tirric, tirric," mingled with the tapping of its bill and the loud flutter of its wings, was often to be heard in the low scrub and bamboos on the hillsides, as well as (though less frequently) in the forest trees. They were usually in twos or threes, but now and again a solitary individual was met with. When suspicious of danger they instantly become silent and steal quietly away. One I examined had fed on insects and small larvæ; another had in its stomach a huge white grub some 2 inches in length.

On 21st February my man shot a female at Yamakan, which he says he is sure (from the appearance of the organs) had already laid!

Two males in the flesh were 11·75 inches in length. Three females were 11·2, 11·2, and 11·4 inches.

14. GECINULUS VIRIDANUS Slater, Ibis, 1897, p. 176.

Much less common about Ching Fung than the last. I heard its note on one occasion, and one of my men came across three in a small wood of pines and shot one of them. The note is much shorter than that of *Lepocestes sinensis*, and sounds like "kwek, kwek."

A pair in the flesh measured :—♂. Length 11·0 inches, wing 5·2, culmen 1·0. ♀. Length 10·6 inches, wing 5·1, culmen 1·0.

My collectors shot six at Kuatun in the autumn of 1898.

15. DENDROCOPUS INSULARIS Gould, Ibis, 1897, p. 176; 1898, p. 333.

Recorded in error as *D. subcirris* in Ibis, 1897, p. 602.

My men obtained four specimens from Kuatun last autumn. We have not as yet received this bird from the Ching Fung district.

16. HARPACTES YAMAKANENSIS Rickett, Bull. B. O. C. viii. p. xlviii; Ibis, 1899, p. 444.

Three specimens of this Trogon were obtained at Yamakan in December 1898. I did not see them in a living state, so know nothing of their habits or notes.

A pair I handled in the flesh measured as follows:— ♂. Length 13·8 inches, wing 6·0, tarsus 0·8. ♀. Length 14·0 inches, wing 5·9, tarsus 0·8.

They had fed on berries; the stomach of the female also contained a few insect-remains.

17. Syrnium indrani (Sykes): Blanf. Fauna B. I., Birds, iii. p. 275.

I received a specimen (♂) from Ah Ch'ung, shot on 24th February. This and Styan's specimen from Chinteh (Anhwei Province) (Ibis, 1899, p. 289) are, I think, the only recorded instances of its occurrence in China proper. It was obtained by Swinhoe in Formosa. My bird measures *in the skin*:—Length 20·2 inches, wing 14·8, tarsus 2·5.

18. Strix candida Tickell, Ibis, 1894, p. 222.

It was not till the end of June 1898 that I was able to get a second specimen of this Owl. It was a female, caught alive in a building a few miles from Foochow. It measured in the flesh:—Length 14 inches, wing 13·4, tail 5·5, tarsus 3·0.

19. Glaucidium brodiei (Burton).

I have one from Ching Fung, shot on 1st January.

20. Scops glabripes Swinhoe.

Dr. Stenhouse (H.M.S. 'Algerine') has kindly presented La Touche and me each with an egg of this species, which he took from a rather curious site, viz. a Magpie's nest! He shot the bird as it flew out, and on getting up to the nest found three fresh eggs.

Eurystomus calonyx Sharpe constantly—in fact, so far as my knowledge goes, *invariably*—makes use of old Magpies' nests round about Foochow, although there are plenty of trees with holes suitable for nesting purposes.

21. Spilornis cheela (Latham).

We obtained two specimens at Yamakan last winter and saw several others, but they were too wary to allow of approach. It is apparently *the* Eagle of the district.

On 17th April my men took a nestling near Ching Fung. It was just a ball of fluffy white down, and the sole occupant of a nest which was described as being no bigger than a Kite's (*Milvus melanotis*). It was placed in a high tree, and composed of sticks lined with pine-needles. One of the parents made a swoop at the boy when he was near the nest, and very nearly struck him on the head. As it circled round for another stoop, one of the men fired. The bird thereupon flew to a tree some little way off, where it was joined by its mate; the pair made a great outcry, but did not approach the nest again. The natives say that these Eagles are very destructive to their fowls and ducks.

An adult ♂, shot in December, measured in the flesh:—Length 27 inches, wing 18·5, tail 12, tarsus 3·6, culmen (from cere) 1·3. Its crop contained a small snake.

22. HALIASTUR INDUS (Bodd.).

La Touche obtained a specimen once in August (Ibis, 1887, p. 234). I never came across the species till my man shot a female in July 1898, and a male in the following May.

It is strange that it should be so rare a straggler here, as Styan states that it comes to breed in small numbers at Kiukiang (Ibis, 1891, p. 490). David also notes it as breeding in Kiang-si.

23. ANSER CYGNOIDES Pall.

La Touche (Ibis, 1892, p. 491) mentions the probable occurrence of this Goose at Foochow. Last November I received the heads and necks of two shot at Sam-sha Bay (an inlet a few miles to the north of the mouth of the Min). One of these has a broad whitish band round the base of the upper mandible, the other has no trace of such a band.

24. ANSER ALBIFRONS Scop.

I have two specimens, shot in October and November. The latter (♂) measured in the flesh:—Length 26 inches, wing 16, tail 6, tarsus 2·4, culmen 1·9.

With the exception of *Anser segetum*, Geese are very uncommon about Foochow.

25. DENDROCYGNA JAVANICA (Horsf.).

I recorded a specimen obtained here in 'Ibis,' 1894, p. 225. It was apparently (from its dull colouring) an immature bird. Last November a fine bright-plumaged male was shot near the mouth of the river. It measured in the flesh:—Length 16·5 inches, wing 7·5, tail 2·5, tarsus 1·8, culmen 1·6.

26. Phasianus ellioti Swinhoe.

La Touche obtained a specimen at Kuatun. Last winter my man saw the dried body of one in a native house at or near Yamakan. The owner told him it came from Kieh Ning Fu, where, according to him, it is not uncommon.

27. Gennæus nycthemerus (Linn.).

Silver Pheasants appear to be very common all round about Ching Fung. A man at Yamakan told my collectors that they shoot these birds at times from huts made of branches, in which the sportsman spends the night and shoots the birds at dawn as they come to pick up the food scattered about to attract them. The shot birds are allowed to remain where they fall, and seven or eight are sometimes obtained in a morning. They also shoot the birds at roost by torchlight.

28. Arboricola ricketti Grant, Bull. B. O. C. viii. p. xlvii.

I have, in all, obtained eight specimens of this Hill-Partridge from Yamakan and Ah Ch'ung. Of these seven are males; the eighth is not sexed, owing to shot-damage.

My man describes the note as a low "goo, goo, goo." He says they keep on the ground in dense underwood all day, but roost in trees. Previous to flying up to their roosts they are very noisy, uttering their note seven or eight times in succession, with increasing rapidity and in an ascending scale. They appear, from his account, to be far from uncommon. The stomach of one he brought to me contained two small acorns, the stones of some berry, a few small univalves, and remains of insects.

29. Ceriornis caboti Gould.

The natives at Yamakan described a bird that they say occurs in the forest, which my collector thinks must be this Tragopan, but as yet no specimen has been obtained. At Kuatun it must be very common, as my men brought me 14 skins last autumn. All but two were females; the exceptions were young males in an interesting transition stage of plumage. One of these is now in the Natural History Museum at South Kensington.

30. Himantopus candidus (Bonn.).

La Touche obtained specimens here in 1885–86 (Ibis, 1892, p. 497). We have not procured any since then till last year, when two males were shot in October close to Foochow and a female in the following April a few miles higher up the river. The native "shooting-man" who brought me the first described it as a bird with "very large hands" (!!), meaning, of course, long legs.

31. Anous stolidus (Linn.).

A male in adult plumage was shot on the river near Foochow (about 30 miles from the sea) on 3rd October: a typhoon that we had a couple of days before being, no doubt, the cause of its appearance. The stomach was quite empty.

This bird measured in the flesh:—Length 16·4 inches, wing 10·8, tail 7·0, tarsus 0 9, culmen 1·5.

Foochow,
25th August, 1899.

IV.—*On the Occurrence of Nordmann's Pratincole* (Glareola melanoptera) *in Italy*. By Prof. E. Arrigoni degli Oddi.

It will be very interesting for your readers to know that *Glareola melanoptera** has occurred in our country, and that I have been fortunate enough to obtain for my collection a rare and perfectly well-preserved specimen. A few days ago I received from Mr. Marco Gianese, of Lonigo (Vicenza), a large parcel of stuffed birds, this gentleman having decided to sell his collection, composed of birds obtained in the district of Lonigo, which is beautifully situated on the Berici Hills, in the province of Vicenza (Venetian territory). Last year, on two occasions, I bought some other rare birds of Mr. Gianese, among them, I am pleased to mention, many abnormally-coloured specimens, and besides these examples of *Circus cineraceus, Sylvia subalpina, Potamodus luscinioides, Locustella nævia, Anthus cervinus, A. richardi* (three), *Emberiza leucocephala* (two), *Plectrophanes lapponicus, Totanus stagnatilis, Anser cinereus, Mergus*

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* *Cf.* Sharpe, Cat. B. xxiv. p. 57.

merganser, and *Gelochelidon anglica*, all species most difficult to obtain here.

Lately he has sent me examples of *Cyanecula suecica*, *Plectrophanes lapponicus*, and *Actodromas temmincki* (in full winter dress), *Totanus fuscus* ♂ ♀ (in full summer dress), *Hydrocolæus melanocephalus* ♂ ♀ (in full summer dress), *Rissa tridactyla*, and three beautiful Pratincoles, among which one was labelled "♂, *G. pratincola*, May 5th, 1892, Pila rice-fields, near Bagnolo (Lonigo)."

On first seeing this bird I took no especial notice of it, but I was afterwards impressed by the fact that it was different from the common Pratincoles, because the forehead and lores were jet-black. Then I examined the under-surface of the wing, and I found that it was quite black. Undoubtedly I had before me a real specimen of Nordmann's Pratincole. I must say that I was greatly astonished at this fact, which had remained unrecognized for seven years! But at the same time it is so certain that no doubt whatever can arise about it. In the first place, Mr. Gianese is a good, careful, and honest man; he knows our birds only from experience, principally acquired by his passion for shooting and fowling; besides, his own collection is entirely composed of birds shot in his district, generally by himself, and all skinned and stuffed *from the flesh* by himself. As a last, but not the least, argument, I dare say if he had been aware of the real importance of this specimen, he would not have sent it me as *Glareola pratincola*, and charged me only four francs for it.

The differences between *G. pratincola* and *G. melanoptera* consist mainly in the latter having the axillaries and under wing-coverts not of a lively chestnut colour, but black, the upper parts darker, and the green glossy tint more developed, the secondaries uniformly coloured, and not tipped with white, the under-surface of the body paler, but the flanks darker. Besides, in my specimen the throat is whiter or less ochreous, the hinder neck is more rusty, the head is very dark, almost black on the forehead, and between the eye and bill there is a broad black band, which forms a very large spot embracing the fore part of the eye, while in *G. pratincola* the forehead is like the head, or scarcely darker, and there is only a very narrow black line on the lores, generally quite obsolete; sometimes only a small black patch on the fore part of the eye is observed.

Glareola melanoptera has never appeared before in Italy, but Prof. Giglioli has included it among those species which might possibly occur in our subregion. It inhabits, according to Sharpe, S.E. Europe, especially the Volga and the lowlands of the Caucasus, as far west as the Dobrudscha, and even Hungary, wintering in Africa. I have seen two fine specimens of this Pratincole, killed at Sistova (Bulgaria), in the Museum of Sarajevo.

G. melanoptera is the larger bird; I give herewith the measurements:—

G. melanoptera: total length 9·3 inches, culmen 0·75, wing 7·4, tail 4·3, tarsus 1·5.

G. pratincola: total length about 9 inches, culmen 0·72, wing 7·4, tail 4·5, tarsus 1·3.

Glareola pratincola is mostly a bird of passage in Italy, more usually found in southern localities during the spring. It breeds in Sicily in the marshes of Catania, Girgenti, and Syracuse, and even in Tuscany. In Northern Italy it is a straggler, while in autumn it is generally uncommon everywhere.

I have seventeen specimens of it in my collection from the following places:—

a–d. Semi-ad., April 1st, 1890; ♂ ♂ and ♀, May 16th and 21st, 1896, Padua.
e g. ♂, May 15th, 1895, May 9th and 18th, 1896, Venetia.
h, i. ♂, May 2nd, 1888, May 7th, 1893, Lonigo (Vicenza).
k. Young, August 22nd, 1892, on the River Po, near Turin.
l. ♀, May 18th, 1898, Verona.
m, n. ♂ ♀, May 11th, 1897, Massaciuccoli Lake (Tuscany).
o. ♀, May 6th, 1894, Elba Island (Tuscany).
p. ♂, May 10th 1896, Bari (Puglie).
q. ♂, May 12th, 1894, Sicily.
r. ♀, May 9th, 1891, Sardinia.

Ca'oddo, near Monselice, Padua, Italy,
October 14th, 1899.

V.—*On two Nesting-places of Gannets and Terns in the South Indian Ocean.* By Commander STUART ST. J. FARQUHAR, R.N.

BETWEEN the Seychelles and Mauritius lies a group of coral-islands known as the "Farquhar Islands," named after a former Governor of Mauritius. This group is composed of two larger islands, separated by a narrow stretch of shoal-water, and extends about eight miles in length and half a mile to a mile in breadth, forming with the surrounding coral-reef an almost perfect atoll. There is a layer of about six inches of guano on these islands, and the vegetation is almost entirely coconut-trees, planted by natives, and a species of mangrove-bush. Of bird-life there is plenty. Guinea-fowl, which were introduced many years ago, are now very numerous and do much damage to the small patches of Indian corn. Several kinds of Doves are resident: one, a very small, short-winged species (*Turtur rostratus*), is abundant, and I obtained a good many of their eggs. Fowls, which have strayed from the settlement, form a not inconsiderable item in a day's shooting, as they have bred freely, and the offspring are as wild as the wildest Pheasants in England. The sea-birds, however, form the principal attraction, being far more numerous and varied than any other family. Three kinds of Gannets, or Boobies, were common, viz. *Sula piscator*, *S. cyanops*, and *S. leucogastra*.

The first-named of these species was found nesting on both the main islands, and, so far as I could ascertain by enquiry and observation, was the only one which did so. All the other sea-birds nested on a small island named Goelet Island, from the immense number of Sooty Terns (called "Goelets" by the natives) which resort there. *Sula piscator* alone did not, probably because on Goelet Island there were very few bushes, whereas the two large islands were almost entirely overgrown with scrub. *S. cyanops* and *S. leucogastra* both nest on the ground, and *S. piscator* always on the bushes.

On July 10th, 1897, I paid a visit to Goelet Island; it is inside the reef, and can be approached only in a small boat, owing to the numerous rocks and the shallow water. On the way there our boat was the object of much curiosity on the part of the Boobies (*Sula piscator*). These inquisitive birds, especially those in immature plumage, literally crowded round to see us. One would hover above my head, just going fast enough to keep pace with the boat; it would examine with an apparently critical eye every detail, turning its head from side to side in a most comical way. If I put up my hand to catch it, it did not attempt to fly away, but would give a sort of squawk and peck at my fingers; there it would remain till driven off by another who wanted to look. There was apparently no reason for these attentions, as we were a mile from the shore and in no way interfering with their domestic arrangements.

The other Gannets were far more reserved and never came near us at all. *S. piscator,* as I have already mentioned, nested in great numbers on the main islands; they make a nest like the Common Heron and lay one egg: certainly there was never more than one chick in a nest. They were all hatched out at the time of my visit. The young are clothed in snowy-white down, and never leave the nest until they can fly; this is doubtless necessary for their preservation, as the earth swarms with land-crabs, which eat everything and anything they can get, and make short work of a young Booby. These are very fat, and I watched the old birds feeding them on half-digested fish: naturally the nests smelt very strong. They are most difficult birds to skin satisfactorily on account of the fat, and the natives, when they require skins, adopt the cruel method of carrying the young away from the colony to some distant spot and placing them on bare bushes, where they soon get thin, being unable to obtain any food. I saw some which had lived thus nearly a fortnight and had plenty of vitality left. On our way to Goelet Island we passed many turtles, which were at this time just beginning to come ashore to lay their eggs; they swam very fast, and easily outstripped the boat. The immense number of birds on Goelet resembled from the sea a swarm of bees over a hive, and the noise they made could be heard a long way off.

The island is about half a mile long by a quarter of a mile wide, and two places in the centre of it had been selected as nesting-stations by the Sooty Terns (*Sterna fuliginosa* and *S. anæstheta*). All, or nearly all, these birds had young, and their serried masses hid the ground, while, as you approached, the chicks ran away or opened out to let you pass, and the effect was like a moving black carpet. I only walked on the outskirts of this throng of birds, but that was quite enough, for the old birds literally mobbed me, striking me repeatedly with their wings and shrieking in a most deafening manner. So fearless were they that one could catch them by the hand as fast as one liked.

The ground here was bare of herbage; but close round the outside of the colony long coarse grass grew abundantly, and this was alive with Noddies (*Anous stolidus*), all with nestlings or hard-set eggs. These birds were even more pugnacious than the Sooty Terns. All three species lay only one egg; at least I never saw more than one egg or young bird in a nest.

Dotted about the rest of the island could be seen Gannets (*Sula cyanops* and *S. leucogastra*) sitting on their nests, off which they had to be pushed with a stick; they fought savagely, and repeatedly struck the stick with beak and wings, hissing loudly. They had all hard-set eggs or young. Some nests contained two eggs, but I invariably found one of these to be infertile or rotten, while there never was more than one young bird in a nest.

Just above the shingle at one corner of the island a colony of Roseate Terns (*Sterna dougalli*) were nesting, their eggs being in all stages of incubation. These had sometimes three, two, or one egg, and at first I thought that where there were only one or two eggs they would prove fresh, but such was not the case. Nearly all the eggs of these birds were fertile. The nests were close together, and very few had young.

Not far from the Roseate Terns there was a small colony of the Great Sea-Tern (*S. bernsteini* [?] *), with mostly fresh or slightly incubated eggs, no young. These are the most beautiful eggs of the Terns which I have met with. One egg apiece is all they lay, and there was no attempt at a nest. I took about 30 eggs; nearly all these were fresh.

Besides *S. dougalli* and *S. bernsteini* [?] there was a colony white Terns with black bills, apparently some form of *Gygis*, but I had no means of identifying them at the time, and my skins were afterwards lost. These were not nesting.

There were also a number of Turnstones on the island, and from their behaviour I at first imagined that they must be nesting, but such was not the case. The manager of the coconut-plantation, Mr. Speirs, who was well acquainted with all the birds of these islands, assured me, however, that he had on one occasion found the Turnstone nesting on an island of the Chagos group, where he saw the birds sitting on their nests in the débris above high-water mark, and was most positive about this, adding that he saw the eggs himself. He said he had often searched for them since, but had never again succeeded in finding them. Those I observed had their breeding-organs quite undeveloped, as I shot several and examined them. There was also a small species of Curlew on the island, but as, like all this kind, it was very wary, I could not get a shot, and was therefore unable to identify it.

On a few bushes round the edge of the water I found two species of Heron—the Common Heron (*Ardea cinerea*) and another which I could not at the time identify, and, having lost the skins I made, I have not since been able to do so†. *A. cinerea* had young ones or hard-set eggs, and the other sort only eggs, sometimes as many as six in a nest.

There were a good many Frigate-birds about, but they were not nesting. Their principal occupation seemed to be robbing the Boobies and Gannets of their food. The natives said they nested in November, but I had no opportunity of proving this.

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* [Commander Farquhar names the bird *S. maxima*, a species mainly American; but it was more probably the very local *S. bernsteini*, which is found about Diego Garcia, Rodriguez, and the vicinity, though possibly the widely-distributed Swift Tern, *S. bergii*.—EDD.]

† *Description of the small Heron.*—Bill yellow; head capped with buff; legs horn-colour; toes black; irides yellow: all the rest white. Of about the same size as the common Cattle-Heron of India, but not corresponding to that bird in breeding-plumage.

On June 24th, 1898, I visited Beacon Island, a small rock in the heart of the S.E. trade-wind, about five miles from Port Victoria, Mahé, Seychelles group. The landing was very difficult, the swell being heavy, but I managed to jump ashore. Generally this island is inaccessible, as the sea breaks all round it, except in the finest weather, and there is always a swell. Here I found *Sterna anæstheta* and *S. fuliginosa* in fair numbers, though not nearly so numerous as at Goelet Island. The former is a small replica of *S. fuliginosa*, but is not quite so black on the neck and back, and the inner web of the middle toe does not reach to the end of it, as in *S. fuliginosa*. *S. fuliginosa* had mostly fresh eggs, and *S. anæstheta* generally hard-set or young. *S. fuliginosa* always nested in the open, *S. anæstheta*, more often than not, under stones, rocks, or hidden under tufts of grass. Both these species bred all over the island. This to a certain extent was true of *Anous stolidus*, which was fairly plentiful, but seemed to keep together more than the other two. There was a fair-sized colony of *S. dougalli* here also, but they were most exclusive, keeping quite by themselves, and were much wilder than any of the others. I could not catch *S. dougalli* by hand, all the others I could. These were the only birds on the island, but there were immense numbers of beautiful copper-coloured lizards, which must have taken a heavy toll of the eggs. If I broke one, the lizards found and ate it at once; they were not large enough to take the young birds.

VI.—*On the Migration of Phalaropes in Montana.*

By Ewen Somerled Cameron, F.Z.S.

Previously to the spring of 1899 I had looked upon Phalaropes as quite rare in North-eastern Montana, having seen the Red-necked Phalarope only once, and Wilson's Phalarope four times, during the last ten years—both species exclusively during June, and in very small numbers.

On May 21st of the present year an extraordinary invasion of Phalaropes occurred, and examples of both the above-named birds continued to arrive in greater or less numbers until the end of the month. At first the Red-necks predominated, and Mr. H. Tusler, whose ranch adjoins mine on the south and who was the first to observe their advent, brought me three specimens of *Phalaropus hyperboreus* on the date above mentioned, shot, as he informed me, out of at least three hundred birds, which included (as I subsequently learned) a few of *P. wilsoni*. All the birds were swimming about in shallow lakes, formed by the recent rains, on the prairie. The relative numbers of the two species were subsequently reversed, for, the main flight of Red-necks having passed, only a few were afterwards seen sprinkled among the Wilson's Phalaropes, which continued to arrive daily in considerable flocks. These later flocks were, however, less in size than the immense flight of *P. hyperboreus* described by Mr. Tusler, which I unfortunately missed.

Both species frequented the temporary ponds formed by the abundant rains in the depressions of grass-lands, but seemed to shun the regular creeks and water-holes altogether.

I procured several specimens for skins, a task of small difficulty, as the birds were so tame and showed so little fear that, when some members of the flock were shot, the remainder would make two or three big circles and alight on the water beside their dead companions. Similarly, when a Marsh-Hawk hovered above them, they made equally wide sweeps, and descended on the same place from which they had arisen.

At the moment of alighting they were so thickly disposed that a large number might have been killed by one shot, but immediately after reaching the surface of the water they scattered in all directions over the pond. Their tameness was indeed remarkable. When I forced them to rise, either on foot or horseback, they merely flew around me to alight again; and in some marshy ground on the ranch I was able to drive two females of *P. wilsoni* to where my wife waited with a camera, while the much smaller male stood close to her, as if he well understood that our intentions were peaceful.

It was hoped that the Wilson's Phalaropes which frequented our ranch would remain to breed, as they were in a secluded spot, where no disturbance reached them; but although they seemed well pleased with their surroundings, by June 4th all had departed.

The Wilson's Phalaropes, both when feeding and when disturbed and circling on the wing, constantly uttered a low croaking, which at close quarters might be compared to the much louder note of Sand-hill Cranes, or, at a distance, to the faintly-heard barking of a dog. On the other hand, I have heard them give a shrill and totally different call of indecision or satisfaction on their first arrival, when hovering above a pool.

Both species gave the impression of extraordinary activity as they fed greedily on a species of gnat which swarmed close to the surface of the water. To catch these gnats they swam about with incredible swiftness, moving their necks from side to side, or backward and forward, incessantly.

In every flock of Wilson's Phalaropes the females greatly outnumbered the males, and to say that the latter were less richly coloured hardly expresses the difference between them. By the side of the gay-plumaged females the males appeared insignificant dark grey birds, with white underparts; and only on a very close inspection could the faint chestnut wash on the neck and the indistinct white stripe of the nape be detected. It can hardly be supposed that all of the great number examined through binoculars at close range were immature examples.

Among males of *P. hyperboreus* both young and adult individuals were noticed, several of the latter approximating in some degree to the more gaily-dressed females.

The stomachs of the Phalaropes examined contained minute stones, grass, and the black gnats above alluded to, mashed to a pulp. The eggs in the ovaries of the females were extremely small, not much larger than pin-heads; in only one was there an egg the size of a pea.

In the Red-necked Phalaropes the bill was black, the irides hazel, and the legs and feet slate-blue; but the Wilson's Phalaropes had the bill and legs black and the irides brown. A female of the last-named weighed $2\frac{1}{2}$ ounces.

The measurements in inches of a male and female of each species are here given:—

	Length.	Extent.	Wing.	Tail.	Bill.	Tarsus.	Naked leg to end of middle toe.
Phalaropus wilsoni, ♀ ..	9	16	5	2	$1\frac{3}{8}$	$1\frac{1}{4}$	3
Phalaropus wilsoni, ♂ ..	8	14	$4\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{4}$	1	$2\frac{5}{8}$
Phalaropus hyperboreus, ♀	$7\frac{1}{4}$	13	$4\frac{1}{2}$	2	$\frac{7}{8}$		
Phalaropus hyperboreus, ♂	7	$12\frac{1}{2}$	4	$1\frac{7}{8}$	$\frac{7}{8}$		

In addition to the Phalaropes, great numbers of Stints (*Tringa minutilla*) and a single Hudsonian Godwit (*Limosa hudsonica*) passed; in fact, such an invasion of birds has not been seen here since the memorable flight of Buzzards (*Buteo swainsoni*) in 1890.

I obtained the above-mentioned Godwit, which was a female in transition plumage, and the only specimen I have ever seen in the north-west. Of this bird, Coues says: "Not noted W. of the Rocky Mts., and apparently not common anywhere in the U.S."

Terry, Montana,
Sept. 1st, 1899.

VII.—*An Ornithological Expedition to the Zambesi River.*

By Boyd Alexander, F.Z.S.

(Plate I.)

[Continued from 'The Ibis,' 1899, p. 583.]

72. Crateropus jardinii (Smith).

We first met with this bird near Zumbo, on the right bank of the river. It consorted with *C. kirki*, but was not nearly so plentiful, and was easily recognizable by its much larger size. Unlike the latter, the specimens shot at the end of November were in a moulting condition, the new feathers of the nape and mantle having dark-brown centres.

The cry is louder and more harsh, if anything, than that of *C. kirki*.

73. Crateropus kirki (Sharpe).

Well distributed along the river, especially in more or less open country dotted over with small thickets and clumps. Always observed in parties of from five to six birds, and never very far distant from water, while the reed-beds bordering the river became their roosting-places for the night.

The note of this bird is peculiar, like that of the Magpie, at first very harsh, then becoming soft and mellow. When several get together they are very noisy and quarrelsome, causing the little valleys to ring with a chorus of cries which closely resemble those made by a party of Jackdaws. A female shot at the end of October had the sexual organs in a breeding condition.

In immature birds the feathers of the mantle and lesser wing-coverts are tipped with whitish brown, while the whole of the underparts are washed with a light ochre, becoming more distinct on the flanks, belly, and under tail-coverts.

Adult ♂ (near Tete). Wing 3·72 inches, culmen 0·73, tail 4·2. Iris pearl-colour, legs and feet lead-colour.

Adult ♀ (near Zumbo). Wing 4 inches, culmen 0·8, tail 4·2. Iris orange-red, legs and feet lead-colour.

74. Pycnonotus layardi (Gurney).

Very common. Open ground and the outskirts of villages are chiefly frequented, while during excessive heat the bird will haunt belts of large shady trees that overhang the river, or some small watercourse thickly covered in with trees. The song of this Bulbul consists of two portions: the first is given out with deliberation, and the last with rapid execution, the rendering of which might well be described as being "gobbled" off. At sunset this bird will mount to some high tree and pour out its somewhat monotonous song, and keep on uttering it until the light has quite vanished. In the pairing-season its singing becomes more varied, a few rather sweet whistling notes being introduced. Furthermore, a portion of the song is often uttered when on the wing. During the greater part of the year this bird is gregarious. While at Durban, in June, we observed numbers in flocks outside the town, while towards evening they would all sing together from the tops of high trees, after the manner of Starlings.

On the approach of the breeding-season, in December, this Bulbul becomes very noisy, and there is no bird then more solicitous of its young.

On Christmas Day we found some youngsters, fully fledged, sitting in a row on a slender bough, and paying no heed to the anxiety exhibited by their parents, which were beating about in the bushes close by, and uttering the whole time their alarm-notes, a series of sharp "chucks," accompanied with a rapid opening and closing of their wings.

75. ANDROPADUS OLEAGINUS (Peters).

Not common, and observed near the river from Zumbo onward. Towards the middle of November this species was breeding, and the females alone appeared to undertake the task of incubation, for the specimens shot invariably turned out to be males.

Though this bird may often be observed in company with *Chlorocichla occidentalis*, it can readily be distinguished from that species by its smaller size.

The song of the male is soft and musical, uttered in a deliberate manner, and might be described by the syllables "tu-tu-tui-tui," several times repeated.

Adult (Zumbo). Iris lemon-yellow. Length 7·6 inches, wing 3·65.

76. CHLOROCICHLA OCCIDENTALIS (Sharpe).

The first time we saw this beautiful Bulbul was at Mesanangue, our first regular camp, about 30 miles above Tete. We obtained there only one specimen, but the further we went up the river the more noticeable did this species become (especially near Chicowa and about Zumbo), it being, however, locally distributed, and so much so that it was not unusual to find the individuals of a certain locality congregated in one small well-wooded valley and consorting with Yellow-vented Bulbuls (*Pycnonotus layardi*). When in thick undergrowth they utter loud scolding notes on the approach of danger. Besides ground-insects, their food consists to a great extent of fresh buds of various trees, especially those of the acacia, upon the topmost branches of which they may be observed busily and silently feeding off the young shoots.

Breeding commences towards the middle of November. On our return down the river, after leaving Chicowa, we discovered a nest on January 27th, and, while breakfasting near the spot, we had ample time to identify the birds. The nest was placed on one of the spreading branches of a thorny bush. It was very fragile and small for the size of the bird: it was constructed of dried bents, with somewhat finer bents for a lining. It contained two eggs (probably the second lay), which were much incubated.

Description of the Eggs:—Ground-colour dirty white, spotted, blotched, and clouded with olive-brown, with underlying markings of a greenish brown and more thickly round the larger end. Average measurements ·97 inch by ·65.

77. Phyllostrophus strepitans (Reichen.).

Not found on the lower reaches of the river. We first met with the bird about 50 miles below Zumbo, where it was rather plentiful in the thick undergrowth of the woods near the river. We generally observed it in parties, but in pairs towards the end of December, when the specimens obtained had the sexual organs in breeding condition. At that time these birds threw off their usual skulking habits, and became bold and very noisy, answering one another from different parts of the wood with their harsh "churr, churr" notes, uttered several times in succession, and which, on one's approach, would assume a scolding expression.

78. Eremomela helenoræ, sp. nov.

Eremomela helenoræ Alexander, Bull. B. O. C. viii. p. xlviii.

Most nearly allied to *E. polioxantha*, but smaller in size, and differing in the following particulars: the feathers of the rump are olive-yellow, and not ashy-grey washed with olive; secondaries tipped with white; axillaries ashy white, not yellow; under tail-coverts white; feathers of thighs dusky, tipped with white. The tail is considerably shorter than in *E. polioxantha*.

Adult ♀. Upper mandible brown, lower horn-colour; tarsus black; iris orange. Total length (measured in flesh) 3·56 inches, culmen 0·5, wing 2·1, tail 1·18, tarsus 0·6.

Hab. Mesanangue, Zambesi river.

It was quite by accident I obtained this bird. My native "boy," who was anxious to learn how to shoot, begged hard one afternoon to be allowed to take out one of my small guns. He afterwards returned to camp highly delighted, having shot this little *Eremomela*, which he had observed in some thick bushes on rocky ground close to the river.

79. Eremomela usticollis (Sundev.).

By no means plentiful, and only observed on the higher reaches of the river from Zumbo onward, frequenting the tops of tall acacia-trees in pairs, and generally in company with other small insect-feeding birds.

The male has a pleasing little song.

Adult. Total length (measured in flesh) 4·34 inches. Iris lemon-yellow; upper mandible brown, lower horn-colour; legs and feet yellowish flesh-colour.

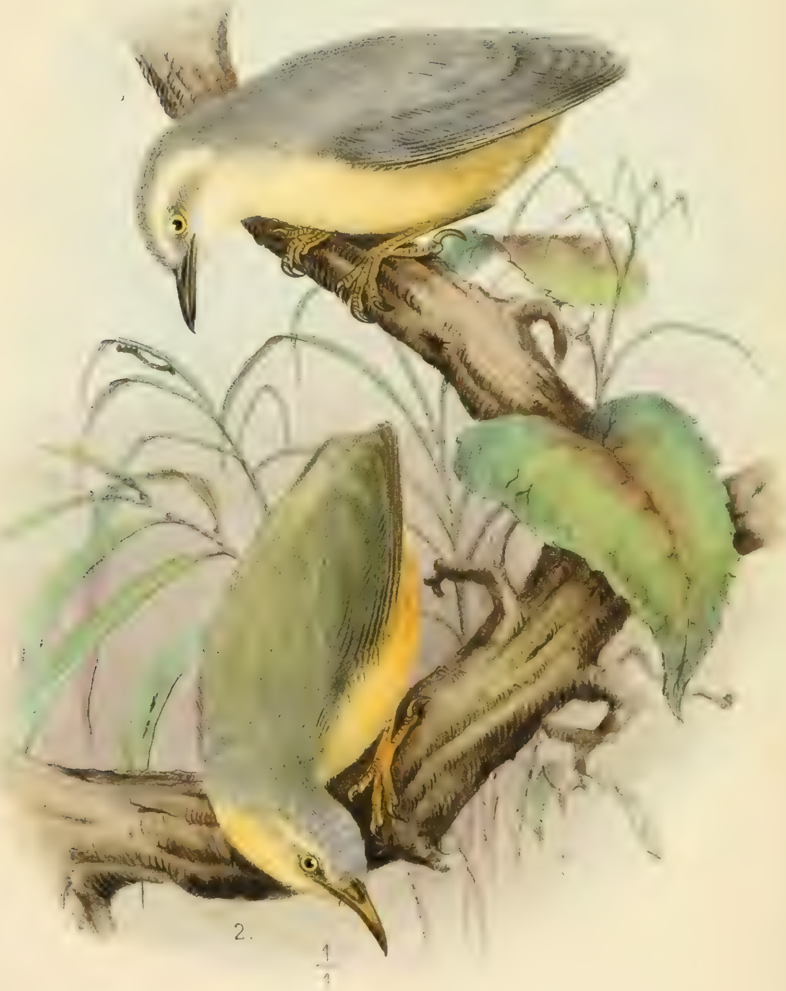
The range of this species extends from the Transvaal to Zumbo, on the Zambesi, on the east, and Damaraland on the west.

80. Camaroptera brevicaudata (Rüpp.).

By no means plentiful, frequenting bush-grown localities and the outskirts of woods. Our three specimens were procured at Zumbo. In the pairing-season this bird produces a whirring sound with its wings when travelling from branch to branch. It is chiefly resorted to by the male as a means of attracting the female to its side when the pair are threading their way through thick undergrowth, and appears to take the place of a call-note.

This bird is unusually silent, and never once did we hear it give vent to any note.

Adult. Bill black; iris orange; legs and feet flesh-colour.



H. Grönvold del. et lith.

Mintern Bros. imp.

1. SYLVIELLA PALLIDA
2. " MINIMA.

81. Camaroptera sundevalli (Sharpe).

We obtained our two specimens near Tete.

C. brevicaudata appears to take its place on the higher reaches of the river.

Adult ♂. Total length (measured in flesh) 4·68 inches, wing 1·95. Iris orange; upper mandible brown, lower light horn-colour; legs and feet flesh-colour.

82. Sylviella pallida. (Plate I. fig. 1.)

Sylviella pallida Alexander, Bull. B. O. C. viii. p. xlviii.

This species is closely allied to *S. minima* Grant (see below, p. 156), which in my original description of the present species (*l. s. c.*) I erroneously called "*S. leucopsis* Reichen." Under these circumstances I have thought it advisable to figure both species in the accompanying Plate for comparison. The British Museum possesses a male and female of *S. minima* from the island of Manda, B. E. A., with which we have compared our specimens. From these birds the Zambesi specimens differ in the following particulars:—The upper parts are uniform grey, not washed with greenish; superciliary stripes, chin, throat, cheeks, and fore-neck, as well as the middle of the breast and belly, are white, tinged with buff, the sides and flanks more distinctly washed with the same colour. The bill, which is larger, is black, not brown.

Adult. Culmen 0·45 inch, wing 2·3, tail 1·0, tarsus 0·75. Iris straw-colour; legs and feet light brown.

Note.—We seldom observed this elegant *Sylviella.* It is shy and retiring by nature, keeps much to thick undergrowth coating stony ground near the river, and is particularly fond of frequenting acacia-growth, from which it seems to gather an abundant supply of insect-food. It is interesting to watch this bird threading its way through the maze of twigs and branches, always examining one bush thoroughly before passing on to the next, now hanging Tit-like from some pendent twig, the next moment to run in mouse-fashion along the branch, looking very like a miniature Nuthatch. It is a silent bird, but now and again, when a pair are together, the male will keep in touch with the female by uttering a little long-drawn cry, weak and mouse-like, while, when excited, it will give out a series of notes, which might be rendered by the syllables "tiz, tiz, tiz," rapidly repeated. We obtained a good series along the Zambesi, the first specimen at Senna and the last near the Kafue river.

In an immature specimen (Tete, *Livingstone*), which seems to be referable to *S. pallida*, the superciliary stripes, sides of face, and underparts are distinctly washed with pale rufous-buff, and the bill is light brown.

83. Chlorodyta neglecta, sp. nov.

Chlorodyta neglecta Alexander, Bull. B. O. C. x. p. xvii.

It appears that this species has hitherto been overlooked. It is the south-eastern representative of *Chlorodyta flavida* (Strickl.), from which it differs in the following points:—Feathers of the rump are uniform yellowish green, like the back; throat, cheeks, and under tail-coverts silky white; under wing-coverts white; while the feathers of the thighs are greyish white. The British Museum possesses adult specimens from Kingwilliamstown, Elands Post, the Makalaka country, and from the Cheringoma district in Mozambique. These correspond with our birds from the Zambesi.

Of *C. flavida* there is also a good series, obtained from Northern Damaraland and the Ovaquenyama country lying directly to the east of it.

In both species some individuals have the head and nape of an entirely slaty grey, others have only the forehead and sinciput of that colour, while in several the sides of the crown and of the nape show signs of becoming grey. In our adult specimens of *C. neglecta*, freshly moulted and killed between July and December, only the forehead and sinciput are grey. On the other hand, a male shot in January has the whole crown and nape of that colour, and from its worn plumage it is evidently an old bird and had done breeding. The grey on the head and nape, therefore, is a sign of age, and is probably assumed after the second moult.

The area of this species is South-eastern Africa, ranging into Mozambique, while that of *C. flavida* is Northern Damaraland and the Ovaquenyama country.

Adult ♂ (Zambesi). Total length (measured in flesh) 4·68 inches, wing 2·0, culmen 0·4, tail 1·98. Bill black; iris orange; legs and feet brownish flesh-colour.

Adult ♀ (Kingwilliamstown). Wing 1·9 inch, culmen 0·48, tail 2·0.

84. Prinia mystacea (Rüpp.).

Fairly common. At the end of August small flocks of young birds in their first plumage, but in the process of moult, were frequently observed. On August 26 a party of these birds visited the confines of our camp, and with their inordinately long tails, which were raised ever and anon to a sharp angle with their bodies, they reminded us very forcibly of a band of Long-tailed Tits as they flitted from one low bush to another, always keeping close to the ground in their journey, and only on being disturbed would they fly up to the top of some tall tree and utter harsh little notes of alarm.

In November and December we obtained specimens in adult plumage.

Immature ♂ (August 26). Total length (measured in flesh) 5·7 inches, wing 1·9, tail 3·2. Iris orange; bill black, horn-colour at tip; legs and feet flesh-colour.

Adult ♂ (November 13). Total length (measured in flesh) 5·0 inches, wing 1·86, tail 2·3. Iris orange; bill black; legs and feet flesh-colour.

Adult ♀ (July 19). Wing 1·8 inch, tail 2·1. Iris orange; bill black; legs and feet flesh-colour.

The last-named specimen had organs in breeding condition. The breeding-season would therefore appear to be from May onward. In August the young of the year, easily recognizable by their long tails, are abroad, and by the end of December they have practically assumed the adult plumage, while in the second year breeding takes place.

85. Cisticola lugubris (Rüpp.).

Only once met with at Shupanga on July 7. We had some difficulty in obtaining any of these handsome little Cisticolas, which were then in full breeding-plumage. They kept very persistently to the long grass, constantly tantalizing us by getting up at our feet, to drop again into the thick weed a few yards ahead, thereby making the shooting of them no easy matter. The male bird has a screechy song, that becomes scolding in tone on the observer approaching its haunts.

On dissection a male had the sexual organs much developed, while one of the birds observed had a piece of nesting-material in its beak.

Adult ♂ (*crown pale rufous*). Wing 2·3 inches, tail 2·4. Iris yellow; upper mandible dark brown, lower horn-colour; legs and feet yellowish flesh-colour.

Adult ♀ (*crown streaked*). Wing 2·0 inches, tail 2·1.

86. Cisticola subruficapilla (Smith).

Well distributed over low-lying country that is covered with thick grass and high weed. The male bird has rather a pretty little song, which it utters from the top of some prominent grass-plant, the next minute to pop down out of sight into the thick weed. The specimens we obtained in September are evidently immature birds still in winter plumage; all the feathers are much abraded, the upper parts are light fulvous brown, the feathers of the mantle and scapulars being broadly streaked with dark brown, while the colour of the crown and nape is very pale and almost uniform with the mantle. In one specimen the feathers of the crown are beginning to assume a dark rufous. On the other hand, an adult female killed in January has the upper parts darker and more ashy grey in appearance, the brown streaks to the feathers of the mantle and scapulars hardly noticeable, while the crown and nape are a uniform dark rufous.

Immature ♂ (September). Wing 2·5 inches, culmen 0·45, tail (worn) 2·5. Iris hazel; upper mandible light brown, lower light horn-colour.

Immature ♀ (September). Wing 2·0 inches, culmen 0·4, tail (worn) 2·0.

Adult ♀ (January). Wing 2·1 inches, culmen 0·4, tail 2·0. Upper mandible dark brown, lower horn-colour.

87. Cisticola chiniana (Smith).

In life this Cisticola is easily distinguishable from *C. subruficapilla* by its larger size, more robust appearance, and somewhat darker plumage, while both its alarm-note and song in the pairing-season are a good deal louder in tone.

In habits it differs little from other members of the genus, being found living together in small colonies in favourite localities. When the breeding-season approaches these colonies split up and scatter over a greater area of country. We found this species breeding in January, and, though we obtained a number of male birds, the females were seldom noticed, a fact that seems to demonstrate that the female alone undertakes the task of incubation.

Like the majority of the Cisticolas, this bird in the pairing-season shakes off a good deal of its skulking reserve, is more frequently seen, and becomes very amorous of its mate. From the top of some high bush or tree he will fall upon her, singing all the while a little carolling song, his flight resembling that of our Tree-Pipit as he descends singing to earth.

Adult ♂ (January). Wing 2·6 inches, culmen 0·5, tail 2·6. Iris light orange; upper mandible brown, lower horn-colour.

Adult ♀ (November). Wing 2·48 inches, culmen 0·5, tail 2·5. Soft parts as in male.

88. Cisticola muelleri, sp. nov.

Cisticola muelleri Alexander, Bull. B. O. C. viii. p. xlix.

This species is closely allied to *C. dodsoni* from Somaliland, but is rather larger and has no broad subterminal band of black on the tail-feathers, which, with the exception of the two centre ones, are a uniform brown, having narrow dusky subterminal markings under certain lights on their inner webs only, while the broad white tips found in its near ally are absent.

Adult ♀ (organs in breeding condition). Total length (measured in flesh) 3·84 inches, wing 1·82, culmen 0·4, tail 1·6. Iris orange; bill, legs, and feet flesh-colour.

Named in memory of Mr. Müller, a comrade in our expedition, who died of dysentery at Tete.

Our attention was attracted to this little Grass-Warbler by its habit of frequenting the tops of tall trees and uttering a few plaintive and metallic notes.

Hab. Mesanangue, Zambesi river.

89. Cisticola cinerascens (Heugl.).

Found below Tete, frequenting thick grass near the river. The song is thin and screechy.

Adult ♀ (*winter plumage*). Wing 2·0 inches, culmen 0·4, tail 2·3. Iris straw-colour; upper mandible brown, lower horn-colour.

90. Cisticola erythrops (Hartl.).

Not common, and observed either singly or in pairs on the higher reaches of the river. Unlike other Cisticolas, it keeps much to the belts of fish-cane bordering the water, and in habits closely resembles a Reed-Warbler.

Adult (November 27). Total length (measured in flesh) 5·2 inches, wing 2·2, tail 2·3. Iris hazel; upper mandible brown, lower horn-colour; legs and feet flesh-colour.

91. Pinarornis plumosus Sharpe.

It was at Mesanangue, a small village some 30 miles above Tete, that we had the good fortune to find examples of this rare species, hitherto only known from the type in the British Museum (see Cat. B. vii. p. 401, pl. ix.). A pair were observed, and these frequented a bush-grown kopje near the river and bordering a mealie-field. It was towards evening when we first discovered them busy feeding among the dried-up corn-stalks, and their remarkable appearance soon riveted our attention. On being approached they retreated quickly towards their favourite haunt among the clefts of some large rocks. Both in appearance and action they reminded us very much of our Blackbird. After obtaining the female the male seldom showed himself, and then only to run back again into his rocky retreat on our approach. Although we searched carefully every nook and hollow we failed to drive him out; he must have retreated into some inaccessible hole in the great slabs of rock. Neither bird uttered any note, while flight was seldom resorted to, the wings now and again being simply opened with a jerky movement while running, but sufficiently to show the remarkable white spots on the inner webs of the primaries. The favourite haunt of this species appears to be rocky places overgrown with bush, close to running water. The next day we were unable to continue our search after the male bird, as the expedition moved on, greatly to our disappointment.

Adult ♀. Total length (measured in flesh) 9·9 inches, wing 4·43. Iris hazel. Contents of stomach, beetles and small portions of lizards and grasshoppers.

92. Lusciniola gracilirostris (Hartl.).

This species is the only resident Reed-Warbler in the Zambesi region. From the mouth of the Shiré river (where the bird is also a resident) and onward along the Zambesi it may be found on the islands overgrown with fish-cane, and in extensive reed-beds, but it cannot be called common.

On July 25, near Senna, we discovered a nest, ready for eggs, built between three stems of fish-cane and about six feet from the ground. It was a compact structure of a cup-shaped form, composed of fine dried reed-blades and lined with grass-stalks.

The song of this Reed-Warbler is identical with that of *Calamocichla brevipennis* (Ibis, 1898, p. 83), but the alarm-note, a harsh "churr," is somewhat louder.

The song is generally to be heard towards evening, and especially after rain has fallen, when the favourite localities in the reed-beds become filled with their melodious notes.

Immature ♀. Total length (measured in flesh) 5·56 inches, wing 2·28. Iris brown; upper mandible brown, lower light horn-colour; legs and feet lead-colour.

Adult ♂. Total length (measured in flesh) 6 inches, wing 2·63. Iris hazel; upper mandible brown, lower horn-colour, brownish at tip; legs and feet brownish black; throat orange.

Adult ♀. Wing 2·4 inches: upper mandible brown, lower yellowish horn-colour.

93. Locustella fluviatilis (Wolf).

It is interesting to have obtained this European Warbler so far south as the Zambesi, since it was hitherto only known to winter in the north of Africa.

Our single specimen was shot on Christmas Day in a thick belt of reeds near the river. It was silently threading the fish-cane in company with several Reed-Warblers (*Lusciniola gracilirostris*).

The exact locality was 30 miles above Zumbo, on the river.

The specimen obtained was a female, iris brown.

94. Acrocephalus arundinaceus (Linn.).

It was towards evening on Nov. 21, after a storm, that we first observed near Zumbo the Great Reed-Warbler.

As is often the case in the Tropics after rain, the reed-beds suddenly became alive with birds, chiefly Reed-Warblers and Weavers, and though dusk had almost fallen these birds found time to rejoice, making their presence known by their voices, each in its separate key.

The gruff croak of the Great Reed-Warbler would come from somewhere in the middle of the thick reeds, and this was but a prelude to its song, for the next moment the bird would suddenly appear, scaling gracefully some prominent reed in order to gain its top, whence to utter its loud Sedge-Warbler-like song, while in the lowest depths the Weavers, without ever stopping to take breath, poured out their running voluble chatter. And though the silence of the lonely reed-beds was marred by all these bird noises, it was at times enlivened by the exquisite song of *Lusciniola gracilirostris*.

95. Acrocephalus palustris (Bechst.).

Adult ♂ (Dec. 23, near Zumbo). Total length (measured in flesh) 5·4 inches, wing 2·5. Iris brown; upper mandible brown, lower horn-colour; legs flesh-colour; feet greenish brown, pads yellow; throat orange.

Adult ♂ (Dec. 26). Total length (measured in flesh) 5·1 inches, wing 2·56.

96. Acrocephalus bæticatus (Vieill.).

We obtained our first specimen near Zumbo on Nov. 21. It appears not to be a resident on the Zambesi.

The song of the male is very screechy in tone, and resembles that of our Reed-Warbler (*A. streperus*).

Adult (Dec. 3). Total length (measured in flesh) 4·5 inches, wing 2·3. Iris hazel; upper mandible brown, lower pinkish horn-colour; legs and feet greenish.

97. Acrocephalus phragmitis (Bechst.).

First obtained on Dec. 3, near Zumbo, while two weeks later (Dec. 17) we found quite a number of these birds in the thick undergrowth near the river. They were singing lustily, reminding us very much of the reed-beds at home.

98. Hypolais icterina (Vieill.).

A female specimen shot at Zumbo on Dec. 14.

Adult ♀. Total length (measured in flesh) 5·6 inches, wing 3. Iris brown; upper mandible brown, lower yellowish horn-colour; legs and feet slate-colour.

99. Phylloscopus trochilus (Linn.).

A specimen shot on Nov. 9 at Zumbo.

From my notebook (Nov. 13):—"The rain of the last two days has made a wonderful difference in the singing of the birds. The thickets have like magic burst out into leaf, while after a shower they are filled with bird-voices. With this sudden breaking-out of leaf, the Willow-Wren has appeared and also the Garden-Warbler. The song of the former is loud and strong; in fact everything points to the near approach of an African spring."

100. Sylvia hortensis (Bechst.).

One obtained on Nov. 12 at Zumbo.

101. Erythropygia zambesiana (Sharpe).

Sir John Kirk obtained the type of this species at Tete, below which it appears not to occur, for it was not till after leaving that place that we procured our first specimen. This graceful little Chat-Thrush is not at all common, its distribution being decidedly local.

It does not affect thick woods, but rather hilly ground of a stony nature that is sparsely covered with brushwood. We obtained the majority of specimens at Zumbo in December, which was then the breeding-season, the male being more often noticed. It had a habit of sitting on the tops of trees and the prominent branches of saplings that grew out of the undergrowth, and from these look-out posts would pour out its by no means unpleasant song, with especial frequency after rain had fallen.

A male obtained in August in fresh plumage has the blackish streaks on the fore-neck and chest less well defined than in birds obtained in November and December, when the streaks to the feathers have become thicker and more arrow-shaped, imparting to the breast a very streaky and dark appearance, the broad sandy-rufous edgings to the secondaries are narrowed through abrasion, while the feathers of the crown have dark shaft-lines. In the breeding-season the feathers, especially of the breast, become much worn. The very rufous colour of the tail and rump is conspicuous in flight and affords no chance of mistaking the bird for any other.

Adult ♂ (Aug. 15). Total length (measured in flesh) 5·8 inches, wing 2·6, culmen 0·5, tail 2·7. Iris hazel; bill dark brown; base of lower mandible light horn-colour; legs and feet brownish flesh-colour.

Adult ♂ (Nov. 8). Total length (measured in flesh) 5·6 inches, wing 2·65, culmen 0·54, tail 2·72.

Adult ♀ (Nov. 16). Total length (measured in flesh) 5 inches, wing 2·4, culmen 0·41, tail 2·4.

Adult ♀ (Dec. 16). Total length (measured in flesh) 5·1 inches, wing 2·45, culmen 0·42, tail 2·5.

102. Erythropygia quadrivirgata (Reichen.).

Only one specimen obtained and observed of this rare Chat-Thrush. We procured it near the Kafue river in thick woodland. Owing to the shy nature of the bird, we experienced much difficulty in getting within gunshot.

Adult ♀ (Jan. 1, 1899). Feathers much worn. Total length (measured in flesh) 6·55 inches, wing 3·1. Iris hazel; bill black; legs and feet flesh-colour.

103. Cichladusa arcuata (Peters).

Near Senna, in bush-grown country.

Adult ♀. Iris straw-colour; bill black; legs and feet slate-colour. This bird must be uncommon, since we never met with it again after leaving Senna.

104. Cossypha natalensis (Smith).

Where the preceding species is present *C. natalensis* appears to be absent.

This bird is decidedly rare along the Zambesi. Our single specimen was obtained close to the mouth of the Kafue river, in December, its sexual organs being in a breeding condition.

The mantle is largely washed with orange, and the wing-coverts are a bright bluish grey.

Total length (measured in flesh) 6·7 inches, wing 3·45. Legs and feet brown.

105. Cossypha heuglini (Hartl.).

The scarcity of singing-birds in the Zambesi woods is remarkable. There is, however, a noteworthy exception, that of this beautiful red Ground-Thrush, the song of which seems to gain in intensity from the surrounding silence. In the Zambesi region this species commences to breed towards the end of December, the month when the first fall of rain is generally experienced. The male bird is then in full song, but at other times of the year the singing is reduced to a short string of babbling notes. The song is rich and mellow, the long-drawn opening notes increasing in volume, suddenly to break off into a string of bubbling sounds that turn the next moment to soft volubility, the voice being raised in pitch till it becomes like a faint whisper, just as if the singer was soliloquizing.

This *Cossypha* frequents thick undergrowth, waste land where there are bush-grown dells holding water or reed-beds bordering the river. It is a shy bird and keeps much to the bottom of the tangled brushwood, decoying the listener on with occasional snatches of song, but never allowing him to come to close quarters. At another time it will glide surreptitiously from a thick retreat to the next impenetrable spot, to dart away, if suddenly startled, with a twisting flight, its bright-coloured breast catching for an instant the sunlight.

Regarding its distribution along the river, we observed the first individual at Chicowa, and from thence, as we journeyed on, it became more plentiful, especially in the neighbourhood of Zumbo.

The female has no song, but utters now and again a soft whistle. In point of size she is considerably smaller than the male.

Three of our specimens have the following measurements:

Adult ♂. Total length (measured in flesh) 7·8 inches, wing 3·9, tail 3·8, culmen 0·65.

Adult ♂. Total length (measured in flesh) 7·64 inches, wing 3·8, tail 3·65, culmen 0·06.

Adult ♀. Total length (measured in flesh) 7 inches, wing 3·3, tail 3·4, culmen 0·54.

106. DAULIAS PHILOMELA (Bechst.).

We first observed the Thrush-Nightingale at Zumbo on Dec. 17, and, though not common, we met with it now and again in the reed-beds and swampy places on our way up to the Kafue river. We remember having heard on one occasion (Dec. 22) the bird sing, and the notes appeared to us quite as rich and mellow as those of our Nightingale.

Adult ♂. Total length (measured in flesh) 5·9 inches, wing 3·2. Iris brown; bill brown; base of lower mandible light horn-colour; legs and feet brown.

Adult ♀. Total length (measured in flesh) 6 inches, wing 3·5, soft parts as in male.

107. TURDUS LIBONYANUS (Smith).

Adult ♂ (near Senna, July 30, 1898). Total length (measured in flesh) 9·4 inches, wing 4·3, culmen 0·7. Iris black; bill light orange; legs and feet light orange-yellow.

Adult ♀ (Chishomba, Oct. 21, 1898). Total length (measured in flesh) 8·6 inches, wing 4·3, culmen 0·7. Iris red; bill orange; legs and feet yellowish flesh-colour.

A very shy bird, frequenting ground underneath thick undergrowth. The song is pretty and of a babbling nature.

108. Saxicola falkensteini (Cab.).

A single specimen near Tete on Aug. 17. When observed, the bird was busy catching flies after the manner of a Flycatcher.

Adult ♀. Total length (measured in flesh) 5·4 inches, wing 2·9. Iris hazel; bill black; legs and feet brown.

By the discovery of this species on the Zambesi, its range has been considerably increased. Dr. Fischer obtained it on the Victoria Nyanza in 1885, while the only specimen in the British Museum is from Mpapwa, in the Ugogo region.

109. Saxicola œnanthe (Linn.).

A male in winter plumage obtained at Zumbo on Jan. 16. We are unable to find any previous record of this Wheatear being found in winter so far south as the Zambesi.

110. Saxicola livingstonii (Tristram).

An adult male obtained on Aug. 9 at Tete out of a party of four. Another male at Mesanangue on Aug. 18, and a young bird in its first plumage, shot beyond Zumbo on Dec. 28.

Adult ♂. Total length (measured in flesh) 5·55 inches, wing 3·4. Iris, bill, legs, and feet black.

In our two males the amount of black on the crown, sides of neck, and breast varies considerably.

111. Thamnolæa arnotti (Tristram).

Towards evening on July 27 we landed on the left bank of the Zambesi about twenty miles beyond Senna. The nature of the locality was flat, the foreground near the river covered with high dead grass, which in the distance gave way to thin undergrowth and scattered deciduous trees that became more numerous at the foot of a chain of hills.

Just as dusk was closing in we caught sight of a party of this uncommon little Chat-Thrush, the white patches on their shoulders at once riveting the eye, as they journeyed in perfect silence from one tree to another. This bird has an airy flight and resembles the Tree-Creeper in the way in which it flies on to a branch, the tail being pressed tightly against the bark, and from continual contact the tail-feathers after a time become worn very short.

Unfortunately, we never met with this interesting bird again. Out of this little party we procured an adult female which has the feathers of the throat, cheeks, and fore-neck white, mottled with black tips. These tips are, however, disappearing, and the parts then become entirely white in fully adult females.

Several of the feathers of the fore-neck are entirely white on one side of the shaft only, while in others the white is in the process of gradually extending from the shaft over the whole of the remaining brown portion of the feather. A single feather on the crown also shows this change.

This condition of plumage clearly demonstrates that, in very old females, not only the above-mentioned parts become entirely white, but also the crown of the head.

112. Muscicapa grisola (Linn.).

Frequently observed from November onward.

113. Muscicapa cærulescens (Hartl.).

Not a common bird, and of a retiring nature, keeping much to the monotonous woods of *Copaifera mopane*.

The breeding-season is towards the end of November, when the feathers become much worn, the grey edgings to the primaries, secondaries, and tail-feathers, very distinct in specimens obtained in August, having disappeared through abrasion.

Adult ♂. Total length (measured in flesh) 5·6 inches, wing 3·1, culmen 0·5. Iris hazel; upper mandible black, base of lower light horn-colour; legs and feet dark slate-colour.

Adult ♀. Total length (measured in flesh) 5·4 inches, wing 2·9, culmen 0·4. Bill black, soft parts as in male.

In several of our specimens the lower mandible is a light horn-colour, while in others (presumably older birds) the bill is entirely black.

114. Platystira peltata (Sundev.).

Rare. A pair observed and obtained for the first time at Zumbo on Nov. 12.

Adult. Total length (measured in flesh) 4·96 inches, wing 2·6. Iris black; eye-wattle bright coral; bill black; legs and feet lead-colour.

115. Batis molitor (Sharpe).

Fairly well distributed wherever the woods are thick. From August to the end of October they were observed in small parties, consisting of either all males or females, the sexes appearing to keep apart during the non-breeding season.

The song given out by both male and female of this species is somewhat remarkable and at once arrests attention. A clear flute-like note in a high key is first uttered, followed in succession by three others, each descending a tone in scale, the rendering of which is very true, while between the notes a distinct interval is made. The call-note, which is frequently resorted to on the approach of the pairing-season, is a short mellow whistle, while, on being alarmed, the bird will give out a hoarse little croak that is decidedly ventriloquial in expression. When the trees are in full leaf, which they examine diligently for insects, these birds, as they journey over open ground in order to gain the next thick-leaved tree, make a sharp whirring noise with their wings, which can be heard at a considerable distance.

In some of our female specimens the bluish-grey feathers of the mantle have white centres, which impart to the back a very mottled appearance, while in other examples the upper parts resemble those of the adult males; and this is irrespective of dates. The chestnut band on the breasts of those with the mottled backs is also more confined than in fully adult birds. It therefore appears that this species does not assume the adult plumage till after the second moult.

Adult ♂ (Aug. 22, 1898). Total length (measured in flesh) 4·25 inches, wing 2·3, tail 1·8. Iris lemon-yellow; bill, legs, and feet black.

Adult ♂ (Oct. 11, 1898). Total length (measured in flesh) 4·23 inches, wing 2·2, tail 1·7.

Adult ♀ (Aug. 1, 1898). Total length (measured in flesh) 4·5 inches, wing 2·3, tail 1·9. Iris yellow.

116. Erythrocercus francisci (Sclater fil.).

This interesting little Flycatcher was described by Mr. W. L. Sclater at the British Ornithologists' Club in June 1898, from Inhambane, Portuguese East Africa (see Bull. B. O. C. vol. vii. p. lx). We obtained our two specimens near Zumbo and in thick wood close to the river. They were very silent, continuously flitting from one high tree to another, and as they did so looking much like a pair of miniature Redstarts, their red tails in flight being very conspicuous. After obtaining these two specimens, we constantly looked out for the species again, but never noticed it till we reached the mouth of the Kafue river, where on June 8 a single specimen was observed in company with some other small birds.

Livingstone obtained an example of a species (*E. livingstonii* Finsch & Hartl. *) on the Zambesi which is very similar to our bird, though lacking the black spots on the tail; but since Livingstone's specimen is, in my opinion, nothing more than an immature bird, it is highly probable that *E. francisci* is the adult of *E. livingstonii*.

Adult ♂. Total length (measured in flesh) 4·25 inches, wing 1·9. Iris black; upper mandible brown, lower horn-colour; legs and feet brown.

Adult ♀. Total length (measured in flesh) 4·57 inches, wing 1·8. Soft parts as in male.

117. Terpsiphone perspicillata (Swains.).

Not numerous, and is migratory to a great extent in the Zambesi region. In November the males had their long rectrices well developed, when the green gloss also disappears from the throat, sides of the face, and fore-neck. In old males the crown appears to become like that of the female.

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* *Cf.* Sharpe, Cat. B. iv. p. 298, pl. ix. fig. 2.

Adult. Iris black; bill slate-colour; wattled eyelids blue; legs and feet bluish slate-colour.

118. Cotile paludicola (Vieill.).

A large colony of these birds was breeding in holes in a flat sandy stretch of ground close to the river, some 60 miles below Tete, at Umquasi, where we landed on August 1. The holes went a considerable distance into the ground, but were not deep, and were very tortuous.

A specimen shot off the nest had the upper parts brownish black, rump white, striated with brown, and underparts white.

119. Hirundo rustica (Linn.).

From October 20 onward Chimney-Swallows kept on increasing in numbers, the adults appearing first and then the immature birds.

On December 28 we witnessed a remarkable flight. It was towards evening, and we were just able to reach a sandbank before a heavy storm came on. Large flocks of Swallows kept passing us, flying southward before the inky darkness of the rain-clouds.

When nearing Tete on January 29, we pitched our tent for the night close to a large reed-bed. Just before dusk, countless numbers of Swallows, all adult birds, appeared high in the air flying round in circles. Then, suddenly, they swooped down with a rustling sound of wings into the reed-bed close to our tent, where they stayed for the night, and when morning broke not a Swallow was to be seen.

120. Hirundo smithi Leach.

A well-distributed resident on the Zambesi and observed as far as the Kafue river. It builds its nest on the ledges and under the projecting eaves of rocks that border the river, and also on the roof-trees of the Kaffir huts, paying no regard to the inhabitants, flying in and out of the hut-doors, that are continually surrounded with Kaffir children.

On August 18 I found a nest, lined with Guinea-fowls feathers and containing four eggs. It was cemented to the side of a large rock overhanging a pool near the river. To get at the nest, it was necessary to swim across to it, but the pool was deep and ugly-looking, and my native boy did not half like the idea, talking of crocodiles, so I did not press him. The next day I shot a Guinea-fowl out of a flock close to this same pool, and the bird fell into the water; in a second it was drawn under by a crocodile.

The song of this species is pretty and Swallow-like, and often uttered from the tops of rocks in mid-stream.

By the time October had come, the young were abroad.

121. Hirundo puella (Temm. & Schl.).

This Swallow is also a resident on the Zambesi. The nest is a curious structure. While at Zumbo in December we had an opportunity of examining one. It was cemented to the ceiling of an inhabited room of a house to which the birds gained ingress by means of the window, and they made a great fuss whenever this entrance was denied to them. The nest might be likened to a long-necked decanter sliced down its centre, the neck serving as a tunnel by which the birds reached the nest. The total length was about a foot, of which the tunnel took 3 inches, while the depth of the actual nest was 6 inches.

122. Hirundo monteiri (Hartl.).

Not found on the lower reaches of the river, and it was not until we had left Chicowa that we fell in with this handsome Swallow. On October 19 a party was observed flying round a tall baobab-tree. Both in appearance and the manner in which they circled in the air, executing graceful curves without a beat of the wings, they reminded us very much of the larger Bee-eaters. The entrances of holes in the baobab-trees are generally chosen for their nests.

Near Zumbo, on December 2, we discovered a nest cemented to the bottom of a gaping fissure in the stout limb of a baobab-tree. It was rather a deep structure, and made of mud.

Adult. Total length (measured in flesh) 8·5 inches, wing 5·8. Iris hazel; bill black; legs and feet dark brown.

Our four specimens are all adults.

123. Chætura stictilæma (Reichen.).

Only once observed, near Zumbo on November 8, when a small party of six birds appeared and remained in the vicinity for two days, leaving again on the third day. The flight is remarkably powerful, while at the same time the white rump is very conspicuous.

Adult (Zumbo, November 8). Total length (measured in flesh) 5·5 inches, wing 5·7, culmen 0·3. Iris black; bill, legs, and feet black.

124. Tachornis parva (Licht.).

Found in colonies along the river, but not numerous. On landing at a small Kaffir village near Senna, on July 22, we found a colony of these Swifts had taken possession of the palm-trees that grew close to the huts, around which they flew incessantly. They were evidently building, for numbers kept flying up into the cups of the palm-leaves, the next moment to dart away, and this went on without ceasing, a continued string of birds flying up to and down from the leaves of these tall coconut-trees.

125. Caprimulgus fossii (Hartl.).

Found in a variety of places. Waste land partially overgrown with reeds near the river, localities covered with thick long grass, and open stony portions of ground in the thick woods were common to the Nightjar, which we frequently flushed during the daytime.

Senna, July 24.—Towards dusk a large number of Nightjars came abroad and flitted to and fro over some low-lying ground bordering the river. They would often alight on the native paths in front of us and then start up at our feet in a noiseless manner, only to pitch again a few yards ahead. And numbers kept flying backwards and forwards over a bed of thick fish-cane with a flower of a fluffy nature that no doubt attracted moths. The bottom of this cane-growth resounded with the clear croak of innumerable bullfrogs, and when it grew dark the Nightjars chimed in with their grinding notes that sounded very loud in the still air and were at times in perfect unison. This bird lacks the call-note of our Nightjar (*C. europæus*). Breeding takes place towards the end of September.

Our specimens vary in measurements, while the plumage of one is very pale in colour, being a light sandy-rufous all over.

Adult ♂ (Chicowa). Total length (measured in flesh) 9·75 inches, wing 6·7, tail 5·1.

Adult ♂ (Chicowa). Total length (measured in flesh) 9·65 inches, wing 6·5, tail 5·6.

Adult ♀ (Chicowa). Wing 6·1 inches, tail 5.

Adult ♀ (Chicowa). Total length (measured in flesh) 8·7 inches, wing 5·8, tail 4·4.

Adult ♀ (Senna). Wing 5·7 inches, tail 4·3.

126. COSMETORNIS VEXILLARIUS (Gould).

This species is locally distributed along the river, frequenting in pairs more or less open spots in the woods where the sun can penetrate, or the reed-girt islands in the river itself. Just after dusk had fallen, we used to see this weird and decorative-looking bird suddenly appear as if from nowhere, floating through the air with a dancing buoyant flight towards the water's edge, to return a short time after and commence hawking after moths. We noticed that this species invariably went first of all to the water before embarking upon the serious work of catching its prey.

The breeding-season is in November, when the elongated primaries of the males become much worn.

127. EURYSTOMUS AFER (Lath.).

Plentiful and observed in small parties, in which the male sex predominated to a large extent. Breeds towards the middle of November, in holes in the baobab-trees, the males appearing not to share in the task of incubation.

On several occasions, when it became almost dark, we saw this bird still on the wing.

Adult. Bill yellow; iris hazel; legs and feet greenish brown.

128. Coracias caudatus (Linn.).

One of the first birds to arrest the attention of the traveller as he journeys up the river. Fields where the marpela corn has been grown are a favourite resort, for there this bird may be observed making raids upon the locusts that infest the stalk-strewn ground, while the sawn-off tree-stumps that stand here and there afford it resting-places. This Roller is cunning and distrustful, and seldom allows of a close approach, while at the sight of gun-barrels the bird is off in double-quick time, flying high in the air till it becomes a mere speck in the sky, and by way of showing displeasure at being disturbed it screeches out a string of hoarse notes just as if it was suffering from a bad sore throat. Moreover, this Roller is quarrelsome, being a constant source of annoyance to the small birds that may happen to come within its reach, especially to the flocks of Weavers, which it takes a mischievous delight in darting at, as they go "swishing" past, obliging them, from their close formation, to form skirmishing order.

In the pairing-season, the male gives vent to his love-passion in a series of discordant cries as he waltzes in endless twists and turns round his consort in mid-air, sometimes leaving her in order to shoot vertically upward.

Holes in the baobab-trees are generally chosen for nesting-sites. Though this species is a resident along the Zambesi, its numbers during the winter months are comparatively few; but towards the end of December, when the rains commence, an influx may be noticed, and then soon after breeding takes place. Distribution is influenced to some extent by the movement of insect-life; and especially is this the case where big swarms of locusts are present, in whose wake the Roller is sure to follow.

129. Coracias mosambicus (Dresser).

A rather scarce bird, and only met with at Chicowa. It is less noisy and more retiring in nature than *C. caudatus*. A specimen at the time of being shot was feeding off the fruit of the jujuba-tree which is called "masau" by the natives.

The stomach of one bird contained caterpillars, portions of centipedes, and locusts.

Adult. Bill black; iris brown; legs and feet greenish brown.

130. Melittophagus meridionalis (Sharpe).

About one of the first species we collected. It is well distributed all along the river, and chiefly found in the vicinity of reed-beds near the banks, and in open spots in woods where the grass is long. This elegant little Bee-eater seldom heeds one's approach, merely swooping with a single beat of its wings upon the back of the next stooping reed. It is a pretty sight to come across a party of these birds forming head-pieces to all the prominent grass-stalks, and to watch them catching their prey. A rapid dart forward, a snap of the beak, and then returning again to its former point of vantage, to gain which the bird performs a little circular flight, almost poising in the air at times, while the light plays upon the beautiful green of its back and catches the fawn-colour of the wings till they look quite transparent.

When the breeding-season approaches, they all repair to a steep portion of the river's bank and nest in the holes of the previous season. These holes generally run to a depth of two feet. Near Zumbo my native boy found a nest containing five young ones on November 20, and then about a month later, on our way to the Kafue river, the young were abroad, sitting in rows on bending stalks and tree-twigs after the manner of Swallows, and watched over by their parents.

131. Melittophagus bullockoides (Smith).

Much addicted to haunting thick-wooded localities near the river, where the trees are numerous and tall. It is not abundant, never being seen in large flocks, and is of a retiring nature. These Bee-eaters are in the habit of congregating towards sundown on the topmost twigs of leafless trees, whence they utter incessantly low harsh notes that are at times almost in unison.

During the day this bird basks a great deal in the sun, but at times it can be too hot even for him, and you will find him, with beak wide open, literally panting with the heat.

The food of this species consists chiefly of various beetles. The stomachs of many specimens that we procured contained nothing but these insects.

On August 1, near the village of Umquasi, some 60 miles below Tete, a bird was observed with building material in its beak; this species often breeds in company with *M. natalensis.*

132. Merops apiaster (Linn.).

On October 28 we saw for the first time a flock of this species beating down the river at a rapid rate, and another flock two days later.

133. Merops persicus (Pall.).

It was not till after the first rain had fallen (November 21) that we observed these Bee-eaters, which suddenly appeared in small parties of five or six and frequented the tops of the tall acacia-trees, whence they uttered their peculiar notes—a weak rattle. The majority were adults, the feathers of the upper parts becoming blue.

134. Merops boehmi (Reichen.).

Rare. We observed it in only one locality, some 60 miles below Tete, on the left bank, and where the country was thickly wooded. We landed here on August 1, and while forcing our way through the thick undergrowth we came across a few of these elegant little Bee-eaters. It was towards evening and they were very busy catching their prey, darting frequently straight up from their perches with a "whirring" sound of wings, followed by a click of beaks whenever prey was caught, and then graceful circular swoops down to their perches again. This bird is shy and retiring by nature, and seeks a home in the little natural clearings that are common in the thick woods.

Adult. Wing 3·14 inches, culmen 1·1, tail 3, centre tail-feathers 5·7. Iris red.

135. Merops natalensis (Reichen.).

Our first observation of this beautiful Bee-eater was just above Senna, where the Shiré river joins the Zambesi. Our steamer, towards evening, had stuck on a sandbank, and during the tedious work of getting her off we took a canoe to explore a small island that was overgrown with long dead grass and masses of fish-cane. In our ramble, our attention was attracted to another little reed-grown island some 100 yards distant in mid-stream.

The reeds were literally festooned with the bodies of Bee-eaters and bending under their weight. Most of the birds were already asleep, and the reports of our guns threw them suddenly into confusion, many clinging to the reeds, hardly realizing what had taken place. Soon a great sight met our eyes. Shaking themselves free of the reeds, these birds, some 300 in number and glorious in their feathered coats of scarlet, mounted into the air, and were soon bathed in the last glows of a setting sun. They massed themselves together after the manner of Starlings, making all the time a great noise, in a single note that closely resembled the cry of the Fieldfare. Many times they advanced towards their favourite little island of rest, but only to retreat, and it was not until our canoe had left that the leaders of this great flying column of feathered redcoats proclaimed a halt for the night.

From Senna to the Kafue river we constantly observed in certain localities flocks of these Bee-eaters.

During the winter months, partial migrations occur to and from different reaches of the river, these movements being influenced to a great extent by the yield of insect-life.

Essentially river-birds, they never stray very far from water. Dried-up watercourses that are studded with pools, and flat reedy land interspersed with tall trees, are their resorts; and more than once during the day, generally in the early morning and again towards evening, they may be observed journeying from one favourite feeding-ground to another, flying high overhead, sometimes being invisible, and betraying their line of flight only by their cries, which sound at a height very ventriloquial.

During the heat of the day this Bee-eater will remain for hours inert, being quite indifferent to a near approach. A gloriously-coloured bird it appears as it sits perched on the stooping back of a bright green reed. It has indeed a decorative appearance, and reminds one of those types of birds that the Indian loves to depict upon his choicest silks.

Towards evening the bird wakes up from its lethargy and takes up a post close to the riverside, whence it skims over the smooth water after insects, often striking the surface so as to send up a cloud of spray.

On November 1, not far from Zumbo, we came across a nesting-station of this species. The holes, which were very numerous, were in a steep portion of the river's bank. On nearing the colony, these holes began to bristle with long pointed bills, then feathered heads were poked out, a movement soon followed by a general exodus of these birds, which, with their peculiar crying notes, thronged out to the river in hundreds and then up into the blue sky, circling round and round like a flock of Rooks, the light, as they passed and turned, playing upon their brilliant plumage. It was a fine sight and not easily to be forgotten.

These birds were breeding. The holes ran very deep into the bank, about 3 feet in, and we had no appliances for digging them out.

The last important observation on this species from my diary runs as follows:—"December 23, 60 miles from the Kafue river. Country open, hills receding much from the river. Large numbers of Bee-eaters (*M. natalensis*) flying high overhead, from time to time stopping to circle after the manner of Rooks. They must be on migration, since a high flight is always then resorted to."

136. Upupa africana (Bechst.).

Seen occasionally in pairs, from November onwards, on the higher reaches of the river.

137. Irrisor viridis (Licht.).

Generally observed in small flocks, but not common. Moults in August. By the end of October breeding had commenced. The feathers then had a strong and disagreeable odour.

138. **Rhinopomastus cyanomelas** (Vieill.).

A scarce bird, observed either singly or in pairs, and travelling through the woods with a Magpie-like flight. They are silent birds and are always busy destroying the freshly-opened buds of the trees with their scimitar-like bills, and when thus employed they have a pretty way of hanging from underneath the branches. We obtained an immature bird on August 22, while in December the adults were undergoing their moult.

139. **Bucorvus caffer** (Bocage).

Seen only once, but not obtained.

140. **Bycanistes buccinator** (Temm.).

Observed near Shupanga in company with *B. cristatus*, but only one specimen procured. It was seen at rare intervals in small parties and generally towards evening as it journeyed from the thick woods to the river, where it roosted in the deciduous trees lining the bank. We could always tell when these birds had started from their close daytime retreats on their journey towards the water, which was accomplished in stages, by their loud peculiar cries, that could be heard at a great distance and might be likened to the bleat of a lamb. It is a comical sight to see one of these birds alight on the top of a tree. Its heavy bill and enormous casque cause it almost to topple over, but the bird just saves itself by bringing down its strong and flexible tail to a sharp angle.

Adult ♂. Bill and casque blackish; iris brown; soft parts pinkish flesh-colour; legs and feet dark brown. In life, the end of the casque behind the eye is soft and almost pulpy.

141. **Lophoceros melanoleucus** (Licht.).

Common. Frequenting in parties belts of thick deciduous trees lining the river's bank, and flying forward in batches on one's approach with an out-and-in flight. The alarm-note is squeaky and weak for the size of the bird.

This Hornbill is very fond of the " masau " apple (jujuba-tree), these trees affording the bird a good supply of food throughout the winter months.

Adult ♂. Total length (measured in flesh) 20·6 inches, wing 9·8. Bill red, darker along cutting-edge, band at base creamy yellow; iris lemon-yellow; legs and feet dark brown. Contents of stomach, locusts.

142. LOPHOCEROS EPIRHINUS (Sundev.).

Rare. This species was probably breeding in September, since only males were obtained. The cry is a shrill whine.

Adult ♂. Total length (measured in flesh) 19·12 inches, wing 8·7. Iris hazel; bill black; streak and ridges creamy white; legs and feet brown.

143. LOPHOCEROS ERYTHRORHYNCHUS (Temm.).

We devoted a good deal of our time and patience to getting together a collection of all the Hornbills of the Zambesi region, none of which can be called common; but this species is perhaps the most numerous. We met with it in fair numbers near Tete and again at Chicowa. The birds were in flocks and were as shy and wary as they could be, giving us little opportunity of approach within gunshot. But eventually, after several futile attempts to obtain specimens by walking towards them, we got to know the particular trees to which they used to repair on the approach of danger, and by hiding near one of these favourite resorts and having the birds driven towards it we procured a very fair number of specimens of both sexes, and chiefly adult birds. The vicinity of water is essential to this species.

During the cool of the morning and evening they used to troop down to the river as regular as clockwork, and then back again to their old haunts, which are seldom deserted for others. The confines of thick woods where the undergrowth is small and interspersed with high baobab-trees are favourite localities. And in the holes of these baobabs they spend most of the day, for they appear to dislike the heat very much. On the approach of the pairing-season in November, they scatter and hide themselves away in thick woods, often filling these silent places with their peculiar love-cries, which I cannot do better than liken to the "chucking" notes of an amorous farmyard cock. Furthermore, these notes are ventriloquial, for at times it is puzzling to discover the whereabouts of the utterer. The bird has a characteristic flight. A few rapid beats of the pinions, and then follows a long glide through the air, without the slightest motion of the wings; but should an object arouse the suspicion of the bird, the wings are again rapidly beaten and a vertical soar upward is often performed. An observer can always tell exactly for which tree the bird is making, though a considerable distance may intervene, since a direct bee-line is invariably taken. When alighting on a tree, its heavy bill appears to make it top-heavy, for the bird almost topples over, the tail at the same time assuming a vertical position, the next moment to be sharply brought down, whereby equilibrium is regained. As it sits on the knotty bough of some leafless baobab-tree it looks indeed comical, all bill, neck, and tail, with a body no larger than our Blackbird's, reminding one forcibly of the hieroglyphics of ancient Egypt.

This Hornbill does a great deal of good, inasmuch as its principal food consists of locusts and injurious beetles. The gizzards of many we dissected were crammed full of these insects.

Adult ♂. Total length (measured in flesh) 20 inches, wing 7. Iris pale lemon-yellow; bill dark claret-colour, almost black at base of lower mandible; legs and feet brown.

Adult ♀. Total length (measured in flesh) 19·5 inches, wing 6·7. Colours as in male.

144. LOPHOCEROS LEUCOMELAS (Licht.).

A rather scarce bird.

Adult ♂. Total length (measured in flesh) 19·65 inches, wing 7·6. Bill orange-yellow; end of bill and cutting-edge of mandibles reddish black; legs and feet dark brown; iris lemon-yellow.

Adult ♀. Total length (measured in flesh) 17·8 inches, wing 6·7. Colours as in male.

145. Ceryle rudis (Linn.).

This species is more numerous below Tete than it is beyond. To the traveller, as he glides down the river in his canoe, these birds soon become a familiar sight, as they sit on the protruding roots of the steep banks, the ruddy-brown colour of which sets off to advantage their chequered plumage of black and white. This Kingfisher is indefatigable in searching after prey. Hard by a great stretch of glaring hot sandbank deserted by even the wading fraternity, it may be seen throughout the day hovering in mid-air, and shifting constantly its position to more likely spots. Many a time it will dart down into the water like an arrow, and then rise up again without catching anything; but it goes on as persistently as ever, till its efforts are rewarded with success.

We once witnessed a pretty example of solicitude towards its mate on the part of this bird. The male was the first to attract our attention as it hovered, with long beak pointed downward, over a shallow portion of the river after the manner of a Kestrel. After a sudden closing of the wings, followed by a little cloud of spray, it rose the next moment from the water with a fish in its beak. The bird then immediately flew towards an old snag in mid-stream, where the female was perched, patiently awaiting the return of her consort, whom she now welcomed with a tremulous fluttering of her wings. Then the male proceeded to despatch the still wriggling fish by beating it backward and forward against one of the thickest roots, after which the fish disappeared down the female's throat.

This method of killing its prey, which renders it in better condition for swallowing, is constantly resorted to, especially when the fish is large, as it was in this instance.

146. Ceryle maxima (Pall.).

Single individuals now and then were observed.

147. Corythornis cyanostigma (Rüpp.).

Common.

148. Ispidina natalensis (Smith).

Not often noticed, and more retiring by nature than the preceding species, frequenting thick places near the river.

An adult female obtained on January 10 had the breeding-organs largely developed.

149. Halcyon pallidiventris (Cab.).

Common. Both adult and immature specimens obtained.

150. Halcyon orientalis (Peters).

Towards the end of November, the time of pairing, these Kingfishers become very noisy, and much rivalry exists among the males on account of the females. The following observation is from my notebook :—"Nov. 26. Observed three Kingfishers (*H. orientalis*). They were making a great noise, two males courting the one female. The males frequently uttered shrill notes, followed by a loud running chatter, which resounded among the trees. Now and again one of them would face the female and spread out his wings to their full extent, and then, as if to show off their beauty, he would quickly turn his back upon her, the wings all the while fully outstretched, the beautiful blue wing-bands showing out to advantage, and the next moment he would face her again. This movement was repeated without intermission, as if the bird was on a pivot."

Adult ♂. Total length (measured in flesh) 11 inches; wing 4·1; culmen 1·8; tail 2·9. Iris brown; bill, legs, and feet coral-red.

Adult ♀. Total length (measured in flesh) 9 inches; wing 4; culmen 1·8; tail 2·8. Colours as in male.

151. Halcyon chelicutensis (Stanl.).

Well distributed.

152. Colius striatus (Gm.).

Found on the lower reaches of the river from Tete downward; beyond that town its place appears to be taken by *C. erythromelon*. These birds frequent in bands the thick tops of tall bushes, and they so entangle themselves in the maze of twigs that they often find it a matter of great difficulty to extricate themselves on the approach of danger; in fact sometimes they keep quite still, preferring to lie "dogo." During the hush that follows the exodus of other birds from the tree, an individual of the band, thinking danger past, will creep cautiously to one of the topmost twigs and cling to it lengthwise after the manner of a Woodpecker, the others in the meantime keeping up a confused chattering within their leafy retreat. Then, on the sounds of fresh disturbance, they one and all break cover with a great rush, spreading out into a fan-shape, soon, however, to reunite into a compact wedge-shaped body and to travel straight as an arrow to their next thick retreat, all the while giving vent to their chattering notes. These birds love company, and are always, even in the breeding-season, to be found in bands, for while the females undertake the task of incubation, all the males may be observed travelling from one favourite spot to another, and keeping close together as if they were afraid of being attacked.

During our stay at Inhambane, we remember seeing a number of these birds clustering round the fruit of a large-leaved tree (*Terminalia catappa*) common to the locality. It was a remarkable sight to witness them all scrambling together and hanging from a single fruit, and reminded us forcibly of a litter of young pigs being suckled by their mother.

Adult ♂, near Tete (August 4). Sexual organs in breeding condition. Wing 3·6 inches, culmen 0·5, tail 8·1. Iris dark hazel; upper mandible black, lower light horn-colour, bluish at base; legs and feet pale claret-colour. In old males the lower mandible is entirely of a dark bluish horn-colour.

153. Colius erythromelon (Vieill.).

By no means common, and first observed on November 10 near Chicowa. In habits they resemble *C. striatus*, travelling about in small parties and keeping chiefly to the thickest portions of well-leaved trees, away from the heat, which they seem to feel very much, becoming active only in the early morning and evening. The cry, generally uttered on the wing and when in flock, is a series of notes rapidly repeated and in sound far-reaching and mellow. The specimens that we obtained near Zumbo in November are in splendid plumage, and are all males; and though we tried hard to get females, we found the parties of these birds consisting entirely of the male sex.

This bird has a strong and straight flight, and it seldom, if ever, alights on the ground.

Adult ♂ (Zumbo). Total length (measured in flesh) 11·6 inches, wing 3·64, tail 8·6. Iris hazel; bill black, base of upper mandible pink; soft parts coral-red; legs and feet pinkish red.

154. GALLIREX CHLOROCHLAMYS (Shelley).

A scarce bird along the Zambesi, which is the southernmost range of this species. Two females were met with on October 28 below Zumbo.

155. SCHIZORHIS CONCOLOR (Smith).

Common. During a day's trek through more or less open country, a party of four or five individuals may always be observed travelling from one belt of trees to another with a lazy, lackadaisical flight. The Grey Plantain-eater is a tiresome bird. The hunter often has occasion to curse it freely, since he stands little chance of approaching game should one of these birds be in the vicinity of his path. From the top of some tall tree it will utter in a most persistent manner its alarm-cry, which is gruff and wheezy and much drawled out, and might be likened to the words "Oh, why?" "Oh, why disturb me?" it seems to say. The bird also has a peculiar call-note, a groaning grunt, just as if it was going to suffer from an acute attack of illness.

Holes in the baobab-trees are generally chosen as nesting-sites. On November 10 we shot a young bird which was just able to fly.

156. CENTROPUS NATALENSIS (Shelley).

Found near Tete. On the higher reaches of the river *C. superciliosus* takes its place.

157. Centropus superciliosus (Hempr. & Ehr.).

Common where there are tracts of tall grass and reedbeds, but less plentiful on the higher reaches of the river. It appears to be a greedy bird; the stomachs of several obtained were much distended with food, which consisted chiefly of locusts.

This bird puzzled us considerably at first. Its rich bubbling notes, ventriloquial and capable of being heard at a great distance, kept mocking us on many occasions, and it was not till we had made an ambush in a reed-bed one evening that we discovered the utterer of these remarkable sounds. The bird seldom makes use of flight except to wing its way from one thick retreat to another. Then it flies in a clumsy manner, flopping above the tall reed-heads, the next minute to drop in an ungainly way into the bottom-growth, conveying to the observer the idea of much effort, as if to overtop the reeds was all that the bird could manage.

It is seldom seen throughout the day, closeting itself in a thick portion of reed-growth, generally in the vicinity of water, whence it gives out at times its chord of bubbling notes. The best time to observe this Lark-heeled Cuckoo is when sunset is just closing in, and from an ambush near to water you will be able to watch it almost as closely as you like. Troops of Doves come down to the pool and take their last drink, and batches of Weavers pitch into the reeds with rustling flight for the night. Then comes a brief stillness, to be broken shortly by some creepy noise in mid-reed-bed, a tussling noise as of roots and thick growth being pulled aside. It is the Lark-heeled Cuckoo, which has begun its evening forage and is gradually approaching the open spot, wending its way in rodent fashion and with great agility through the columns of the reeds. On emerging into the open it does not neglect to reconnoitre, and accordingly creeps cautiously up one of the stoutest fish-canes overhanging the pool, till it bends under its weight; but there is nothing to cause it alarm, merely a lonely Sandpiper running along the pool's edge and a nimble Black Waterhen (*Limnocorax niger*) treading the soft carpet of weed. Meanwhile, along the further confines of the reed-bed, several more individuals have crept out from their thick retreats in the same cautious manner, and they one and all commence to call the females to their sides, by uttering a series of deep mellow notes full of penetrative power, which might be described by the syllables "ho, ho, ho," each descending a tone in succession.

When the breeding-season approaches (about the end of October), these birds may frequently be heard throughout the day, and even in the middle of a moonlight night. While the river flows through a land of hushed silence, they are still wide-awake and answering one another with their far-reaching mellow notes, that now and again become rapid in utterance, just like the sound of water bubbling from a long-necked jar. And the silence only tends to enhance the beauty of these notes; so rich and so full of soft love-passion are they that one cannot help exclaiming "How good a thing it is to live in this land of nature!"

158. COCCYSTES JACOBINUS (Bodd.).

As soon as the first rain had fallen and the trees had begun to put on leaf, this species appeared in pairs. We observed the first at Zumbo on November 15, after which date they became numerous and noisy, uttering when on the wing loud penetrating notes exactly similar to the alarm-cry of the Green Woodpecker.

159. COCCYSTES HYPOPINARIUS (Cab. & Heine).

An adult male on November 8: Zumbo.

160. COCCYSTES CAFER (Licht.).

First seen on November 22 near Zumbo, when a male was obtained with its sexual organs in breeding condition.

161. CUCULUS CANORUS (Linn.).

First observed and obtained on November 30, an immature male with plumage much in quill, and subsequently on December 27 a female of the hepatic type.

162. Cuculus clamosus (Lath.).

An adult male on December 26. Throughout the day the males kept calling for the females. The cry is a loud, clear, long-drawn whistle, and might be described by the syllables "tu, tu, tui"; but is sometimes uttered quickly, sounding then like "too, too," constantly repeated.

163. Chrysococcyx smaragdineus (Swains.).

An adult male near the Kafue river, on January 8.

Total length (measured in flesh) 8 inches, wing 4·3. Iris brown; eyelids and bill greenish; legs and feet slate-colour.

The cry, which is uttered from the top of some tall leafy tree, is clear and musical, and can be heard at a long distance.

164. Chrysococcyx cupreus (Bodd.).

The males of this species were first seen on October 14; the females appeared later.

The cry, which is plaintive, is uttered by the male from the top of some high tree, and might be described by the syllables "tu, tu, tu, tui."

[To be continued.]

VIII.—*On a Collection of Birds obtained by Mr. H. S. H. Cavendish in Mozambique.* By R. Bowdler Sharpe, LL.D., F.L.S., &c.

During a short visit to Mozambique in the autumn of 1898 Mr. Cavendish, so well known for his adventurous expedition to Lake Rudolf in 1896–97, made a small collection of birds near Beira and at Mapicuti in the Cheringoma District. Mr. Cavendish was accompanied by Mr. W. Dodson, who preserved the specimens with his usual care. Examples of several interesting species were procured, and it is impossible to help regretting that the collection was not larger, since, small as it is, it has added considerably to our knowledge of the range of some of the species which are enumerated in the following list.

1. Urobrachya axillaris (Smith); Shelley, B. Afr. i. p. 24 (1896).

Penthetria axillaris Sharpe, ed. Layard's B. S. Africa, p. 461.

No. 37. ♂ juv. Mapicuti, Sept 16, 1898.
No. 49. ♂ juv. „ „ 20, 1898.

2. Pyromelana oryx (Linn.); Sharpe, t. c. p. 462; Shelley, B. Afr. i. p. 25.

No. 30. ♂ juv. Mapicuti, Sept. 16, 1898.

3. Pyromelana taha (Smith); Sharpe, t. c. p. 465; Shelley, B. Afr. i. p. 25.

Nos. 36, 37. ♂ ad. Mapicuti, Sept. 20, 1898.

4. Spermestes nigriceps Cass.; Shelley, B. Afr. i. p. 28.

Spermestes rufodorsalis Peters; Sharpe, ed. Layard's B. S. Afr. p. 456.

No. 55. ♂ ad. Mapicuti, Sept. 20, 1899.

5. Lagonostica niveiguttata (Peters); Sharpe, Cat. B. Brit. Mus. xiii. p. 274.

Hypargus niveiguttatus Sharpe, ed. Layard's B. S. Afr. p. 477; Shelley, B. Afr. i. p. 32.

Nos. 32, 38. ♂ ad. Mapicuti, Sept. 16, 17, 1898. Iris brown; bill, legs, and eyelids blue.

6. Lagonosticta rubricata (Licht.); Sharpe, t. c. p. 475; Shelley, B. Afr. i. p. 31.

No. 48. ♂ imm. Mapicuti, Sept. 20, 1898. Iris dark brown; bill and legs blue.

7. Estrilda cavendishi, sp. nov.

E. similis *E. astrild*, sed ubique saturatior, pileo saturatè plumbescenti-brunneo, concolore: fasciâ oculari saturatè coccineâ: facie laterali sordidè cinerascente: corpore subtùs lætè coccineo adumbrato. Long. tot. 4·0 poll., culm. 0·35, alæ 1·8, caudæ 1·9, tarsi 0·6.

No. 24. ♂. Mapicuti, Sept. 15, 1898. Bill red; iris brown.

This specimen differs from all other examples in our large series of *Estrilda astrild* in being very dark in colour, the head being a dull leaden-brown, almost blackish in appearance, not grey, and not showing any vermiculations. The back and the under surface of the body are much darker than in *E. astrild,* and the barring on the flanks is much coarser and more heavily indicated, while at the same time the crimson on the breast and on the eye-streak is much richer.

8. ESTRILDA ANGOLENSIS (L.); Sharpe, Cat. B. Brit. Mus. xiii. p. 402.

Uræginthus cyanogaster (Daud.); Sharpe, ed. Layard's B. S. Afr. p. 473.

Granatina angolensis Shelley, B. Afr. i. p. 29.

No. 23. ♂ ad. Mapicuti, Sept. 15, 1898. Iris red; bill mauve.

9. SPORÆGINTHUS SUBFLAVUS (V.); Sharpe, Cat. B. Brit. Mus. xiii. p. 324.

Estrilda subflava Sharpe, ed. Layard's B. S. Afr. p. 469; Shelley, B. Afr. i. p. 30.

No. 8. imm. Barratas, near Beira, Sept. 13, 1898.

10. HYPHANTORNIS JAMESONI Sharpe, Cat. B. Brit. Mus. xiii. p. 447 (1890).

No. 52. ♂ ad. Mapicuti, Sept. 20, 1898.

11. PETRONIA PETRONELLA (Licht.); Sharpe, t. c. p. 481.

Petronia flavigula (Sundev.); Shelley, B. Afr. i. p. 19.

No. 35. ♂. Mapicuti, Sept. 17, 1898.

12. MACRONYX CROCEUS (V.); Shelley, B. Afr. i. p. 13.

Macronyx striolatus, Sharpe, t. c. p. 532.

No. 3. Barratas, near Beira, Sept. 11, 1898.

13. CINNYRIS GUTTURALIS (L.); Sharpe, t. c. p. 311.

Chalcomitra gutturalis Shelley, B. Afr. i. p. 4.

Nos. 33, 39. ♂ ad. Mapicuti, Sept. 16, 17, 1898.

14. CINNYRIS KIRKI (Shelley).

No. 31. ♂ ad. Mapicuti, Sept. 11, 1898. Iris brown.

The metallic forehead is much more bronzy in specimens from south of the Zambesi river, those from East Africa having more of a steel-green gloss on the frontal patch. The specimens from Kilimanjaro, however, seem to be somewhat intermediate.

15. ANTHODIÆTA ZAMBESIANA Shelley, Monogr. Nectariniidæ, ii. p. 343, pl. iii. fig. 3; Sharpe, t. c. p. 321.

Nos. 29, 37. ♂ ad. Mapicuti, Sept. 16, 17, 1898.

16. MALACONOTUS BLANCHOTI (Steph.); Shelley, B. Afr. i. p. 57; O. Neum. J. f. O. 1899, p. 392.

Laniarius poliocephalus Sharpe, t. c. p. 387.

No. 26. Mapicuti, Sept. 16, 1898.

17. DRYOSCOPUS CUBLA (Shaw); Shelley, B. Afr. i. p. 55; O. Neum. J. f. O. 1899, p. 413.

Laniarius cubla Sharpe, ed. Layard's B. S. Afr. p. 392.

Nos. 14, 15, ♀; 16, ♂. Mapicuti, Sept. 15, 1898.

18. TELEPHONUS SENEGALUS (Linn.); Shelley, B. Afr. i. p. 55.

Laniarius senegalus Sharpe, t. c. p. 394.

No. 12. ♀. Barratas, near Beira, Sept. 10, 1898. Iris brown; feet grey.

19. PRIONOPS TALACOMA Smith; Sharpe, t. c. p. 406; Shelley, B. Afr. i. p. 49.

Nos. 41, 42. ♀ ad. Mapicuti, Sept. 18, 1898. Iris and eyelids yellow; legs orange.

20. SIGMODUS TRICOLOR Gray; Sharpe, t. c. p. 407; Shelley, B. Afr. i. 49.

No. 54. ♀ ad. Mapicuti, Sept. 20, 1898. Iris orange; bill, legs, and eyelids vermilion.

21. BRADYORNIS GRISEA Reichen.; Sharpe, Ibis, 1891, p. 602; Reichen. Vög. deutsch. Ost-Afr. p. 92 (1894); Shelley, B. Afr. i. p. 93.

No. 28. ♀ ad. Mapicuti, Sept. 16, 1898. Iris brown.

It may seem somewhat strange that *B. grisea* of Reichenow, described from Ugogo and Masailand, should occur in Mozambique, but the fact appears to be less remarkable when it is considered that several specimens from Nyasaland are also referable to this species. I am also inclined to refer two specimens from the Ivuna river in Zululand, collected by Messrs. Woodward, and identified by me as *B. oatesi*, to *B. grisea*. I have compared the specimens with one from Turquel, in the Jackson collection, which I had identified from the type specimen in the Berlin Museum. A specimen from Loronio is in Emin Pasha's collection in the British Museum.

B. pumila from Somaliland is certainly very closely allied to *B. grisea*, and may prove to be identical, but the buff-coloured throat and dark grey sides of the body appear to separate it. The material in the Museum is now ample for a revision of the genus *Bradyornis* when I shall have leisure to discuss it. At present it would appear that *B. pallida* is the large form from North-east Africa. A smaller form, *B. modesta* of Shelley, is found on the Gold Coast, and another smaller form, which I think must bear my name *B. subalaris*, is from East Africa. *B. murina* is a large grey bird, which is found from Benguela to Mashonaland, and extends to Nyasaland, and thence into Equatorial Africa.

22. MELÆNORNIS ATER (Sundev.); Shelley, B. Afr. i. p. 93.

Bradyornis ater Sharpe, t. c. p. 405.

No. 53. ♀ ad. Mapicuti, Sept. 20, 1898.

23. PRINIA MYSTACEA Rüpp.; Sharpe, Cat. B. Brit. Mus. viii. p. 191; Shelley, B. Afr. i. p. 73.

Drymœca affinis Smith; Sharpe, ed. Layard's B. S. Afr. p. 258.

No. 7. Ad. Barratas, near Beira, Sept. 13, 1898. Iris and legs light brown.

No. 46. ♂ ad. Mapicuti, Sept. 20, 1898. Iris, eyelids, and legs light brown.

24. EUPRINODES NEGLECTUS.

Chlorodyta neglecta Boyd Alexander, Bull. B. O. C. x. p. xvii (Nov. 1899).

Nos. 45, ♂; 41, 43, ♀. Mapicuti, Sept. 10, 1898. Eyelids, iris, and feet light brown.

25. Cisticola natalensis (Smith); Sharpe, ed. Layard's B. S. Afr. p. 261.

Cisticola strangii (pt.) Shelley, B. Afr. i. p. 74.

No. 6. ♂ ad. Barratas, near Beira, Sept. 12, 1898.

No. 22. ♀ ad. Mapicuti, Sept. 15, 1898.

26. Cisticola rufa (Fraser); Sharpe, Cat. B. Brit. Mus. xiv. p. 252; Shelley, B. Afr. i. p. 75.

No. 21. Ad. Mapicuti, Sept. 15, 1898.

27. Crateropus kirki Sharpe, ed. Layard's B. S. Afr. p. 213.

No. 11. ♂. Barratas, near Beira, Sept. 18, 1898.

28. Pycnonotus layardi Gurney; Sharpe, t. c. p. 815; Shelley, B. Afr. i. p. 60.

Nos. 13, 14. ♀. Barratas, near Beira, Sept. 10, 1898. Iris brown.

29. Phyllostrophus strepitans (Reichen.); Shelley, B. Afr. i. p. 65.

No. 50. ♀. Mapicuti, Sept. 20, 1898.

30. Pachyprora molitor (Hahn & Küst.); Shelley, B. Afr. i. p. 98.

Batis molitor Sharpe, t. c. p. 348, pl. x. fig. 1.

Nos. 17, ♂; 18, 19, ♀ ad. Mapicuti, Sept. 15, 1898. Iris yellow.

31. Psalidoprocne percivali Ogilvie Grant, Bull. B. O. C. viii. p. lv.

No. 45. ♂. Mapicuti, Sept. 20, 1898. Iris brown.

This is an interesting extension of the range of this species.

32. Indicator minor Steph.; Sharpe, t. c. p. 169; Shelley, B. Afr. i. p. 125.

No. 51. ♀. Mapicuti, Sept. 20, 1898. Iris dark brown.

33. Centropus burchelli Swains. An. in Menag. p. 321 (1838).

Centropus natalensis Shelley, Cat. B. Brit. Mus. xix. p. 362 (1891); id. B. Afr. i. p. 123.

Centropus senegalensis (nec L.); Sharpe, ed. Layard's B. S. Afr. p. 162.

No. 1. Barratas, near Beira, Sept. 10, 1898.

34. Halcyon orientalis Peters; Sharpe, ed. Layard's B. S. Afr. p. 116; Shelley, B. Afr. i. p. 117.

No. 40. ♂. Mapicuti, Sept. 17, 1898. Iris brown; bill and feet vermilion.

35. Melittophagus cyanostictus Cab.

Melittophagus meridionalis Sharpe, Cat. B. Brit. Mus. xvii. p. 45, pl. i. fig. 4 (1892).

No. 9. Barratas, near Beira, Sept. 13, 1898.

No. 20. Mapicuti, Sept. 15, 1898. Iris red.

36. Melittophagus albifrons (C. & H.); Sharpe, Cat. B. Brit. Mus. xvii. p. 53 (1892).

Merops bullockoides Smith; Sharpe, ed. Layard's B. S. Afr. p. 99, pl. iv. fig. 1 (1884).

Melittophagus bullockoides Shelley, B. Afr. i. p. 111.

No. 10. ♂ ad. Barratas, near Beira, Sept. 13, 1899. Iris brown.

37. Merops natalensis Reichenb.; Sharpe, Cat. B. Brit. Mus. xvii. p. 84 (1892).

Merops bullockoides Smith; Sharpe, t. c. p. 99.

No. 25. Mapicuti, Sept. 15, 1898. Iris brown.

This specimen has the longest tail I have ever seen in this species, the centre feathers measuring 8·2 inches in length.

IX. *On the Birds collected during an Expedition through Somaliland and Southern Abyssinia to the Blue Nile.* By W. R. Ogilvie Grant. *With Field-notes by* Lord Lovat.—Part I.

(Plates II. & III.)

Few African expeditions of recent years have proved more interesting, or have led to more important scientific results, than the adventurous journey lately undertaken by Mr. H. Weld-Blundell and Lord Lovat.

Starting from Berbera on the 11th December, 1898, they proceeded in a westerly direction through Northern Somaliland and the North Galla country, arriving at Addis Abbeba towards the end of January. Thence they proceeded northward through Shoa as far as Lake Haik, to pay their respects to the Emperor Menelik.

Mr. Weld-Blundell having on a previous occasion visited Abyssinia, and established the most friendly terms with His Majesty, the party was received with the utmost cordiality and courtesy, and every assistance was offered in traversing the unexplored part of the country to the west.

Returning southward through Shoa, they followed the Djimma Valley, arriving once more at Addis Abbeba towards the end of February. Thence they marched in a westerly direction, and striking the Blue Nile at Famaka, followed its course to Roseires, which was reached on the 19th of May. A steamer carried them on to Khartum, and thence they proceeded by rail to Cairo. The success of this adventurous expedition was largely due to the able assistance rendered to the travellers by our representative at the Court of Menelik, Captain Harrington, who not only made all the arrangements for transport at Berbera, but accompanied them during part of their journey.

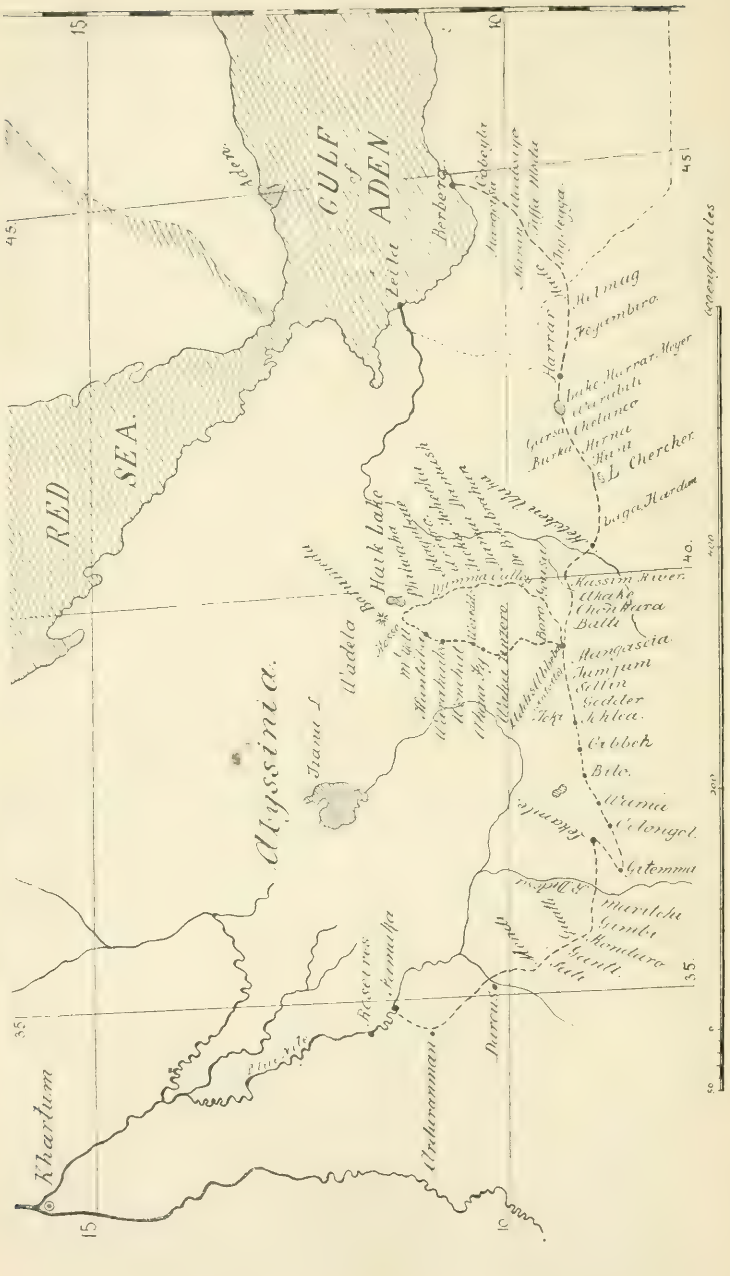
Mr. Harwood, who had already had much experience and done excellent work with Mr. E. Lort Phillips and Mr. R. M^{c}D. Hawker on previous trips to Somaliland, accompanied the expedition as naturalist, and his ability as a field-collector and taxidermist, as well as his skill in managing the native transport, and his unvarying cheerfulness in meeting all difficulties, have won for him the highest praise from the leaders of the expedition.

The zoological results consist almost entirely of Mammals and Birds. Among the former may be mentioned elephants, lions, and examples of about seventeen species of antelopes; as well as a number of small rodents, some of which prove to be new, while many are of great scientific value, as they belong to species long since described by Rüppell. But the great feature of the collection is the birds. These are of exceptional interest, for among the 523 specimens brought home no fewer than 303 species are represented. At least sixteen of these are new, and include such fine birds as *Oriolus meneliki, Indicator lovati, Caprimulgus stellatus, Lissotis lovati, Francolinus tetraoninus,* and *F. harwoodi*; while several, such as *Lagonosticta larvata, Parisoma lugens, Mesopicus spodocephalus, Iynx æquatorialis,* and *Caprimulgus poliocephalus,* are species described by Rüppell, which have never been seen in this country, and are mostly known in Europe only from the types in the Frankfort Museum. Besides these, there are a number of rare species, such as the Flycatchers *Chloropeta massaica* and *Alseonax murinus,* hitherto only recognized as inhabiting Eastern and Equatorial Africa, which have now been met with in Southern Abyssinia; an extension of their geographical range which is extremely interesting and worthy of special remark.

Descriptions of eleven of the new species have already been published by Mr. H. Weld-Blundell and Lord Lovat in the Bulletin of the British Ornithologists' Club, vol x. pp. xix–xxiii (1899), and five more are described in the present paper, making a total of sixteen novelties discovered during this expedition.

Almost the whole of the birds were shot by Lord Lovat, who, though he had never made a special study of ornithology, has shown us what a thoroughly good sportsman accustomed to use his eyes in the field may accomplish. We may mention incidentally that, owing to 1000 cartridges for the collecting-gun having gone astray and been lost, only 400 were available for this indispensable little weapon. Every shot had therefore to be considered, and not one needlessly thrown away on common birds already in the collection. With the aid of a powerful stalking-glass, used with the quickness which is acquired only by constant use, Lord Lovat was able carefully to examine the great majority of the birds before shooting them, and thus obtain the extraordinarily large proportion of different species compared with the number killed.

When we consider that the specimens had generally to be prepared after a long day's march, and packed up before they were properly dry, their fine condition as a whole reflects the greatest credit on those concerned.


RED SEA.
GULF of ADEN
Aden
Zeila
Berbera
Harrar
Helmag
Abyssinia.
Hark Lake
Wadela
Tsana L.
L. Chercher.
Kassim River.
Hangascia.
Jumjum
Gebbeh
Bile.
Gelongel.
Gitemma
Roseires
Famaka
Blue Nile
Khartum
15
10
35
40.
45
400
200
0

SKETCH-MAP OF THE ROUTE OF THE WELD-BLUNDELL AND LOVAT EXPEDITION.

Mr. Weld-Blundell and Lord Lovat have presented the greater part of this grand collection to the British Museum, thus adding not only sixteen new species to the collection, but supplying examples of ten known species which had hitherto been wanting to our series. A glance at the accompanying sketch-map, supplied by Mr. Weld-Blundell and Lord Lovat, clearly shows the route followed by the travellers, more than 300 miles being through country the zoology of which had never previously been explored. The names of the principal camps are indicated, while those intermediate places mentioned on the itinerary given below can be approximately located.

Mr. Weld-Blundell's time was almost entirely occupied in making a map of the country traversed, and the results of his work will shortly be given to the Royal Geographical Society, and published in the 'Geographical Journal'*.

Three of the plates drawn to illustrate this article have been presented to 'The Ibis' by Mr. Weld-Blundell.

A new species, *Sylviella minima,* from Manda Island, British East Africa, is incidentally described on p. 156.

Itinerary of the Weld-Blundell and Lovat Expedition (1898–9).

Dec. 11. Gobeyla, Somaliland.
" 13. Hargeisa, Somaliland.
" 17. Acabsiyo, Somaliland.
" 18. Jiffa Meda, Somaliland.
" 21. Staboolo, Somaliland.
" 23. Jig Jegga, Abyssinia.
" 24. Hado, Abyssinia.
" 25. Feyambiro, Abyssinia.
" 27. Harrar, Abyssinia.
" 30. Lake Harrar Meyer, Abyssinia.
Jan. 3. Garsa and Warabili, Abyssinia.
" 4. Chelunco, Abyssinia.
Jan. 5. Derru, Abyssinia.
" 6. Burka, Abyssinia.
" 7. Tra, Abyssinia.
" 8. Hirna, Abyssinia.
" 10. Baroma, Abyssinia.
" 12. Lake Chercher, Abyssinia.
" 14. Laga Hardim, Abyssinia.
" 16. Ketchen Waha and Hawash, Abyssinia.
" 17. Fontaly, Abyssinia.
" 18. Kassim river, Abyssinia.

[* The paper was read by Mr. Weld-Blundell at the Meeting of Dec. 11th, 1899.—Edd.]

Itinerary (continued).

Jan. 21. Gadaburka, Abyssinia.
,, 22. Jifadensa, Abyssinia.
,, 23. Akake and Balti, Abyssinia.
Feb. 1. Gedda, Abyssinia.
,, 4. Waha Zinzero, Abyssinia.
,, 6. Gerru, Abyssinia.
,, 7. Kuntaba and Ahaia Fej, Abyssinia.
,, 8. Kosso, Abyssinia.
,, 9. Borumeda, Abyssinia.
,, 12. Telagubaie, Abyssinia.
,, 15. Kombolsha, Abyssinia.
,, 16. Philwaha, Abyssinia.
,, 18. Arriro, Abyssinia.
,, 21. Jawaha, Abyssinia.
,, 22. Ticka Tcheeka, Abyssinia.
,, 23. Damai Damash, Abyssinia.
,, 24. Karrafino, Abyssinia.
,, 25. Golba, Abyssinia.
Feb. 26. Alliti, Abyssinia.
,, 27. Jaka, Abyssinia.
Mar. 4. Jumjum, Abyssinia.
,, 5. Sellin, Abyssinia.
,, 8. Tchlea, Abyssinia.
,, 10. Bilo, Abyssinia.
,, 12. Wama, Abyssinia.
,, 13. Gelongol, Abyssinia.
,, 14. Gitemma, Abyssinia.
,, 16. Lekamte, Abyssinia.
,, 21. Didesa river, Abyssinia.
,, 22. Maritchi, Abyssinia.
,, 23. Gimbi, Abyssinia.
,, 25. Konduro, Abyssinia.
,, 27. Guatti, Abyssinia.
,, 28. Ganti, Abyssinia.
,, 30. Sati, Abyssinia
,, 31. Mendi, Abyssinia.
May 2. Beni Schongul, Abyssinia.
,, 6. Famaka, Blue Nile.
,, 19. Roseires, Blue Nile.

1. Heterocorax capensis.

Heterocorax capensis Licht.; Sharpe, Cat. B. Brit. Mus. iii. p. 12 (1877); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 301 (1888).

a. ♂. Sellin, Abyssinia, 5 March, 1899. (No. 380.)

Iris brown; bill and legs black.

[This Crow was very plentiful on the Addis Abbeba plain, but was not observed on the higher plateaux (9000 ft.). No examples were observed between Addis Abbeba and the valley of the Dabous.—L.]

2. Corvultur crassirostris.

Corvultur crassirostris Rüpp.; Sharpe, Cat. B. Brit. Mus. iii. p. 25 (1877); id. P. Z. S. 1895, p. 408.

a. ♂. Borumeda, Abyssinia, 12 February, 1899. (No. 312.)

Iris brown; bill and legs black.

[This Crow has a somewhat restricted range; it was not observed in the lower valleys, and was never seen above 8000 ft. On the Addis Abbeba plateau it is common, its ordinary food being carrion, but it will eat the fruit of the wild fig with avidity. It has a harsh guttural note.—L.]

3. Dilophus carunculatus.

Dilophus carunculatus (Gm.); Sharpe, Cat. B. Brit. Mus. xiii. p. 61 (1890); id. P. Z. S. 1895, p. 459.

a. ♀. Arriro, Abyssinia, 18 February, 1899. (No. 342.)

Iris, bill, and legs dark brown.

[Usually seen in company with *Lamprocolius chalybeus*. Although constantly met with between the 20th of December and the end of March, I never observed any birds with the wattles developed.—L.]

4. Pholidauges leucogaster.

Pholidauges leucogaster (Gm.); Sharpe, Cat. B. Brit. Mus. xiii. p. 121 (1890).

a. ♂. Gelongol, Abyssinia, 13 March, 1899. (No. 411.)

Iris pale yellow; bill and legs black.

[Met with only in the valley of the Blue Nile and its tributaries. I once observed this Starling hawking for flies like a Bee-eater.—L.]

5. Lamprotornis porphyropterus.

Lamprotornis porphyropterus Rüpp.; Sharpe, Cat. B. Brit. Mus. xiii. p. 156 (1890); id. P. Z. S. 1895, p. 459.

a. ♂. Hado, Abyssinia, 24 December, 1898. (No. 28.)

Iris pale yellow; bill and legs black.

6. Amydrus morio.

Amydrus morio (Linn.); Sharpe, Cat. B. Brit. Mus. xiii. p. 161 (1890); id. P. Z. S. 1895, p. 460.

a. ♀. Chelunco, Abyssinia, 4 January, 1899. (No. 104.)

Iris brown; bill and legs black.

[Though plentiful locally, this Starling has not a wide distribution. It was observed in flocks on the steep rocky slopes. At Ahaia Fej it was seen in company with the white-bellied species, *Pholidauges leucogaster*.—L.]

7. Lamprocolius chalybeus.

Lamprocolius chalybeus Ehr.; Sharpe, Cat. B. Brit. Mus. xiii. p. 176 (1890); id. P. Z. S. 1895, p. 450; Hawker, Ibis, 1899, p. 59.

a. ♂. Arriro, Abyssinia, 18 February, 1899. (No. 344.)

Iris bright yellow; bill and legs black.

[Observed throughout Abyssinia, except on the highest plateaux of 9000 feet or more.—L.]

8. Buchanga assimilis.

Buchanga assimilis (Bechst.); Sharpe, Cat. B. Brit. Mus. iii. p. 247 (1877); id. P. Z. S. 1895, p. 460; Lort Phillips, Ibis, 1898, p. 396; Hawker, Ibis, 1899, p. 60.

a. ♂. Hargeisa, Somaliland, 14 December, 1898. (No. 13.)

b. ♂. Arriro, Abyssinia, 18 February, 1899. (No. 343.)

c. ♂. Ticka Tcheeka, Abyssinia, 22 February, 1899. (No. 366.)

Irides red; bill and legs black.

9. Oriolus auratus.

Oriolus auratus Vieill.; Sharpe, Cat. B. Brit. Mus. iii. p. 195 (1877).

a. ♂. Blue Nile, 15 May, 1899. (No. 521.)

Irides red; bill brown; legs dark.

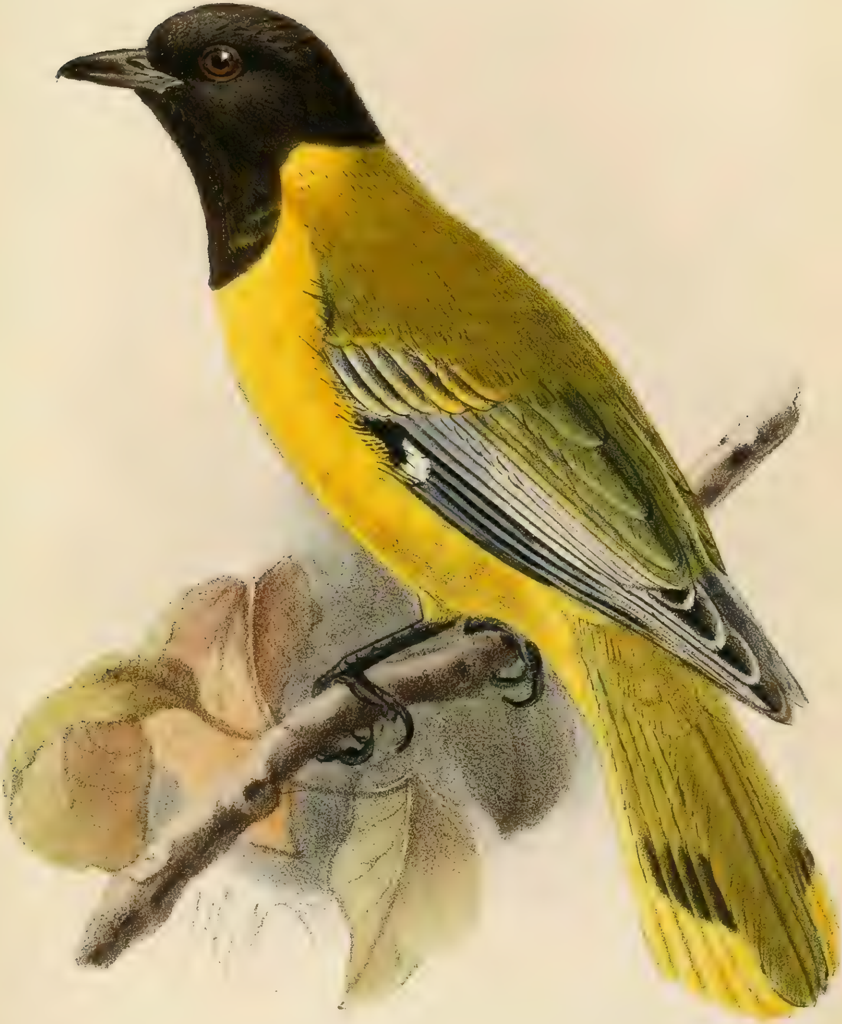
[This bird was only observed in the valley of the Blue Nile, always in pairs and very difficult to approach.—L.]

10. Oriolus meneliki. (Plate II.)

Oriolus meneliki Weld-Blundell & Lovat, Bull. B. O. C. vol. x. p. xix (1899).

a. Burka, Abyssinia, 6 January, 1899. (No. 126.) *Type of the species.*]

This fine species closely resembles *O. monachus* Gmel., but may be at once distinguished by the colour of the bill, which is uniform deep black. The greater secondary wing-coverts and some of the lesser wing-coverts are, moreover, clearly edged with golden yellow, whereas in *O. monachus* they are always uniform, and the subterminal markings on the third



J G Keulemans del et lith.

Mintern Bros. imp.

ORIOLUS MENELIKI

fourth, and fifth tail-feathers extend over both webs and are of a deep black.

Iris brown; bill black; legs slate.

Total length 10·0 inches, culmen 1·1, wing 5·6, tail 4·0, tarsus 0·95.

[This Oriole is a native of the thickets south of the Hawash Valley. It is locally plentiful, and is always met with singly or in pairs feeding on a forest-tree with yellow leaves (name unknown), and, notwithstanding its bright colour, is difficult to see. The note is a melodious whistle, something like that of *Graucalus purus*, and the answer is a harsh double note.—L.]

11. VIDUA PRINCIPALIS.

Vidua principalis (Linn.); Sharpe, Cat. B. Brit. Mus. xiii. p. 203 (1890); id. P. Z. S. 1895, p. 463.

a. ♂. Gerru, Abyssinia, 6 February, 1899. (No. 295.)

Iris brown; bill red; legs dark.

12. LINURA FISCHERI.

Linura fischeri Reichen.; Sharpe, Cat. B. Brit. Mus. xiii. p. 210 (1890); id. P. Z. S. 1895, p. 463; Hawker, Ibis, 1899, p. 61.

a. ♂. Hargeisa, Somaliland, 13 December, 1898. (No. 6.)

Iris brown; bill red; legs horn.

13. STEGANURA PARADISEA.

Steganura paradisea (Linn.); Sharpe, Cat. B. Brit. Mus. xiii. p. 211 (1890); id. P. Z. S. 1895, p. 464; Hawker, Ibis, 1899, p. 61.

a. ♂. Hargeisa, Somaliland, 13 December, 1898. (No. 7.)

Iris dark hazel; bill and legs black.

14. PENTHETRIA LATICAUDA.

Penthetria laticauda (Licht.); Sharpe, Cat. B. Brit. Mus. xiii. p. 218 (1890).

a. ♂. Chelunco, Abyssinia, 4 January, 1899. (No. 111.)

b. ♂. Baroma, Abyssinia, 10 January, 1899. (No. 147.)

c. Jawaha, Abyssinia, 21 February, 1899. (No. 354.)

a. Iris dark brown; bill dark horn; legs dark horn.

b. Iris brown; upper mandible black, lower dusky; legs black.

c. Iris brown; bill dark; legs brown.

Specimen *c*, apparently a female, resembles *a* and *b*; but the primaries &c. are browner, edged with pale whitish, and the tail is much shorter (2·7 inches).

[This Long-tailed Weaver is always to be seen in company with *Penthetriopsis macrocerca* or *Urobrachya traversi*. The male bird apparently does not get the long tail-feathers till the second year's plumage.—L.]

15. PENTHETRIOPSIS MACROCERCA.

Penthetriopsis macrocerca (Licht.); Sharpe, Cat. B. Brit. Mus. xiii. p. 223 (1890).

a. ♂ imm. Baroma, Abyssinia, 11 January, 1899. (No. 153.)

b. ♂. Baroma, Abyssinia, 11 January, 1899. (No. 157.)

c. ♂. Philwaha, Abyssinia, 16 February, 1899. (No. 315.)

a. Upper mandible reddish brown, lower lighter; legs brown.

b. Upper mandible black, lower steel-blue; legs black.

c. Iris brown; bill dark; legs dark.

Specimen *a* shows no traces of yellow shoulder-patches.

[This bird is found in flocks with *Penthetria laticauda*; but, though it occupies similar ground to *Urobrachya traversi*, it was never seen in company with that bird. I believe this bird alters its coloration very much in the rainy season, the wing- and tail-feathers becoming at that time almost wholly black.—L.]

16. UROBRACHYA TRAVERSI.

Urobrachya traversii Salvad.; Sharpe, Cat. B. Brit. Mus. xiii. p. 226 (1890).

a, b, c. ♂ ♂ ♀. Lekamte, Abyssinia, 16 March, 1899. (Nos. 426, 427, 428.)

Iris brown; bill dusky; legs brown.

Specimen *a* is a male in the brown plumage, but with the orange shoulder-patch well developed; *b* and *c* are apparently an immature male and female without any traces of orange on the shoulder. These specimens are a valuable addition to the Museum collection, the only example there being an adult male.

[A very local bird, but in large numbers where it is found. On our westward journey from Addis Abbeba to Dabous we passed through country inhabited first by this species, then, during a few days' march, we saw only *Penthetriopsis macrocerca,* and then once more *U. traversi* only was met with, the Long-tailed Weaver, *Penthetria laticauda,* remaining constant throughout.—L.]

17. PYROMELANA FRANCISCANA.

Pyromelæna franciscana (Isert); Sharpe, Cat. B. Brit. Mus. xiii. p. 233 (1890); id. P. Z. S. 1895, p. 464.

a. ♂ juv. Hado, Abyssinia, 24 December, 1898. (No. 24.)

b. ♂. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 65.)

c. ♀. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 73.)

d. ♂. Lake Chercher, Abyssinia, 12 January, 1899. (No. 164.)

a. Iris, bill, and legs brown.

b. Iris orange; bill dusky; legs light.

c. Iris light brown; bill dusky; legs light.

d. Iris brown; bill light; legs light.

Specimens *b* and *d* are beginning to show some of the black feathers of the breeding-plumage on the breast.

[Always in large flocks about the dhurra-fields.—L.]

18. PYROMELÆNA XANTHOMELÆNA.

Pyromelana xanthomelæna (Rüpp.); Sharpe, Cat. B. Brit. Mus. xiii. p. 239 (1890); id. P. Z. S. 1895, p. 464.

a. ♂. Waha Zinzero, Abyssinia, 4 February, 1899. (No. 288.)

Iris brown; bill and legs dark.

19. PLOCEIPASSER MELANORHYNCHUS.

Ploceipasser melanorhynchus (Rüpp.); Sharpe, Cat. B. Brit. Mus. xiii. p. 246 (1890).

a. ♂. Hawash, Abyssinia, 17 January, 1899. (No. 217.)

Iris brown; bill black; legs brown.

[A noisy bird: seen in large numbers on the Hawash plain.—L.]

20. Ploceipasser superciliosus.

Ploceipasser superciliosus (Rüpp.); Sharpe, Cat. B. Brit. Mus. xiii. p. 248 (1890).

a. ♂. Laga Hardim, Abyssinia, 14 January, 1899. (No. 194.)

Iris light brown; bill brown; legs light.

21. Quelea æthiopica.

Quelea æthiopica (Gray); Sharpe, Cat. B. Brit. Mus. xiii. p. 259, pl. x. fig. 5 (1890).

a. ♀. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 64.)

b. ♂. Baroma, Abyssinia, 11 January, 1899. (No. 154.)

c. ♂. Gadaburka, Abyssinia, 21 January, 1899. (No. 247.)

a. Iris light hazel; bill red; legs light.

b, *c*. Iris brown; bill red; legs light.

[Found in flocks, often with other species of Finches and Weavers.—L.]

22. Spermestes scutata.

Spermestes scutata Heugl.; Sharpe, Cat. B. Brit. Mus. xiii. p. 265 (1890).

a. Ad. Telagubaie, Abyssinia, 12 February, 1899. (No. 326.)

Iris brown; upper mandible black, lower slate; legs slate.

23. Ortygospiza polyzona.

Ortygospiza polyzona (Temm.); Sharpe, Cat. B. Brit. Mus. xiii. p. 269 (1890).

a. ♀. Jifadensa, Abyssinia, 22 January, 1899. (No. 260.)

b. ♂. Jaka, Abyssinia, 27 February, 1899. (No. 376.)

a. Iris brown; bill and legs dark brown.

b. Iris brown; upper mandible dark, lower dull red; legs dark brown.

24. LAGONOSTICTA BRUNNEICEPS.

Lagonosticta brunneiceps Sharpe, Cat. B. Brit. Mus. xiii. p. 277 (1890).

a. ♂. Harrar, Abyssinia, 27 December, 1898. (No. 44.)

b. ♂. Laga Hardim, Abyssinia, 14 January, 1899. (No. 192.)

Iris bright orange or red; bill deep red, black on the culmen, along the cutting-margins, and the suture of the mandibles; legs dark brown.

[This small Finch feeds on the ground in small flocks; it inhabits the lower valleys. The white dots on the breast were not observed on more than one or two birds in every flock.—L.]

25. LAGONOSTICTA CONGICA.

Lagonosticta congica Sharpe, Cat. B. Brit. Mus. xiii. p. 280, pl. xi. fig. 3 (1890).

a. ♀. Lake Chercher, Abyssinia, 11 January, 1899. (No. 162.)

b. ♂. Jawaha, Abyssinia, 21 February, 1899. (No. 336.)

Iris brown; bill and legs black.

We have referred the specimens to this species with some doubt; both birds are much injured by shot, specimen *b* lacking the entire tail. *a* has the back darker brown, more like that of the type of *L. congica*, but without the grey shade, the lores, chin, throat, and breast reddish brown strongly washed with pink, and the forehead and crown deep ash-grey. *b* has the upper parts brighter and of a more rufous brown, the lores, superciliary stripe, chin, and fore-neck dull pink, and the forehead and cheeks strongly washed with the same colour; the rest of the underparts brown, with scarcely a trace of pink.

[Occasionally met with in Southern Shoa.—L.]

26. LAGONOSTICTA LARVATA.

Amadina larvata Rüpp. Neue Wirbelth., Vög. p. 97, pl. 36. fig. 1 (1835).

Lagonosticta larvata Sharpe, Cat. B. Brit. Mus. xiii. p. 286 (1890).

a. ♂ imm. Gelongol, Abyssinia, 13 March, 1899. (No. 412.)

Iris brown; bill and legs dark slate.

An immature male undoubtedly belongs to this rare species. It is unfortunately tailless, but otherwise closely resembles the figure given by Rüppell; the back, wing-coverts, lower breast, and flanks are, however, mixed with brown feathers, evidently the remains of young plumage.

This species is new to the British Museum Collection.

[When first shot the white dots on the breast were well defined.—L.]

27. PYTELIA CITERIOR.

Zonogastris citerior (Strickl.); Sharpe, Cat. B. Brit. Mus. xiii. p. 299 (1890).

a. ♀ imm. Blue Nile, Abyssinia, 16 May, 1899. (No. 513.)

Iris brown; bill reddish; legs light.

This immature specimen, in somewhat worn condition, has the underparts pale sandybrown; only one or two barred feathers of the adult plumage are beginning to make their appearance on the breast.

28. PYTELIA LINEATA.

Pytelia lineata Heugl. J. f. O. 1863, p. 17; Sharpe, Cat. B. Brit. Mus. xiii. p. 301 (1890).

a. [♂] vix ad. Lake Chercher, Abyssinia, 12 January, 1899. (No. 167.)

b. ♀ imm. Didesa river, Abyssinia, 21 March, 1899. (No. 438.)

Iris brown; bill in *a* red, in *b* reddish brown; legs light horn-colour.

The nearly adult specimen before us agrees well with Heuglin's original description of the male; but some of the feathers on the crown of the head and back, as well as those on the middle of the breast and underparts, are sandy brown, and evidently the remains of immature plumage. Specimen *b*, an immature female, has the whole of the upper parts, including the top of the head, earthy brown, the cheeks, throat, breast, and sides somewhat paler and tinged with grey, the two latter being faintly barred with dusky; the middle of the lower breast and belly whitish; the under tail-coverts whitish, with dusky cross-bars; the quills and outer tail-feathers dark brown, margined on the outer web with dull red; and the upper tail-coverts and middle pair of tail-feathers dull red.

This species is new to the British Museum Collection.

[This bird was killed along with a specimen of *Pytelia afra* (No. 168).

It is not common, and where found is in small flocks.—L.]

29. PYTELIA AFRA.

Pytelia afra (Gm.); Sharpe, Cat. B. Brit. Mus. xiii. p. 302 (1890).

a. Juv. Feyambiro, Abyssinia, 26 December, 1898. (No. 34.)

b, *c*. ♂ ♀. Lake Chercher, Abyssinia, 12 January, 1899. (Nos. 168, 169.)

a. Iris brown; bill and legs dusky: bill with two small white knobs at each corner of the mouth.

b, *c*. Iris light brown; bill and legs dusky.

30. COCCOPYGIA QUARTINIA.

Coccopygia quartinia (Bp.); Sharpe, Cat. B. Brit. Mus. xiii. p. 307 (1890).

a. ♂. Chelunco, Abyssinia, 4 January, 1899. (No. 108.)

Iris brown; upper mandible black, lower red; legs black.

[This bird was seen only at Chelunco, but was very common in that district.—L.]

31. HYPOCHERA ULTRAMARINA.

Hypochæra ultramarina (Gm.); Sharpe, Cat. B. Brit. Mus. xiii. p. 309 (1899).

a. ♂ ad. Kassim river, Abyssinia, 18 January, 1899. (No. 224.)

Iris brown; bill and legs pale coral.

This specimen is in the purple-black plumage of the fully adult male.

[Quite black examples of this bird were rare, only one or two being seen among large flocks. It was observed only at the Kassim river, and once afterwards, I believe, at Bilo.—L.]

32. SPORÆGINTHUS MARGARITÆ. (Plate III. fig. 1.)

Sporæginthus margaritæ Weld-Blundell & Lovat, Bull. B. O. C. vol. x. p. xx (1899).

a. Ad. Gelongol, Abyssinia, 13 March, 1899. (No. 414.)

b. Ad. Gelongol, Abyssinia, 13 March, 1899. (No. 415.)

c. ♂ ad. Gelongol, Abyssinia, 13 March, 1899. (No. 417.) [*Type of the species.*]

d. [♀ ?] ad. Gelongol, Abyssinia, 13 March, 1899. (No. 419.)

This, apparently a very distinct species, has the general colour above, including the top of the head, dull earthy brown; the rump and upper tail-coverts dull crimson; the lores, sides of the face, and ear-coverts brownish cinnamon; the rest of the underparts pale cinnamon-buff, inclining to brownish on the sides of the body; the tips of the flank-feathers pink, and the under tail-coverts white. The remiges and rectrices are brownish black, the two outer pairs of the latter inclining to whitish along the outer margin and towards the tip. Iris brown, bill red, legs dark brown. Total length 4·5 inches, culmen 0·4, wing 1·85, tail 1·8, tarsus 0·55.

[A flock of close on one hundred birds was once seen at Gelongol feeding on the ground. The specimens procured were the result of one shot. I observed the flock carefully through my telescope before firing, and, so far as I could judge, the entire number were identical in size, shape, and markings. No. 419, though marked ?, was almost certainly a female.—L.]

33. SPORÆGINTHUS SUBFLAVUS.

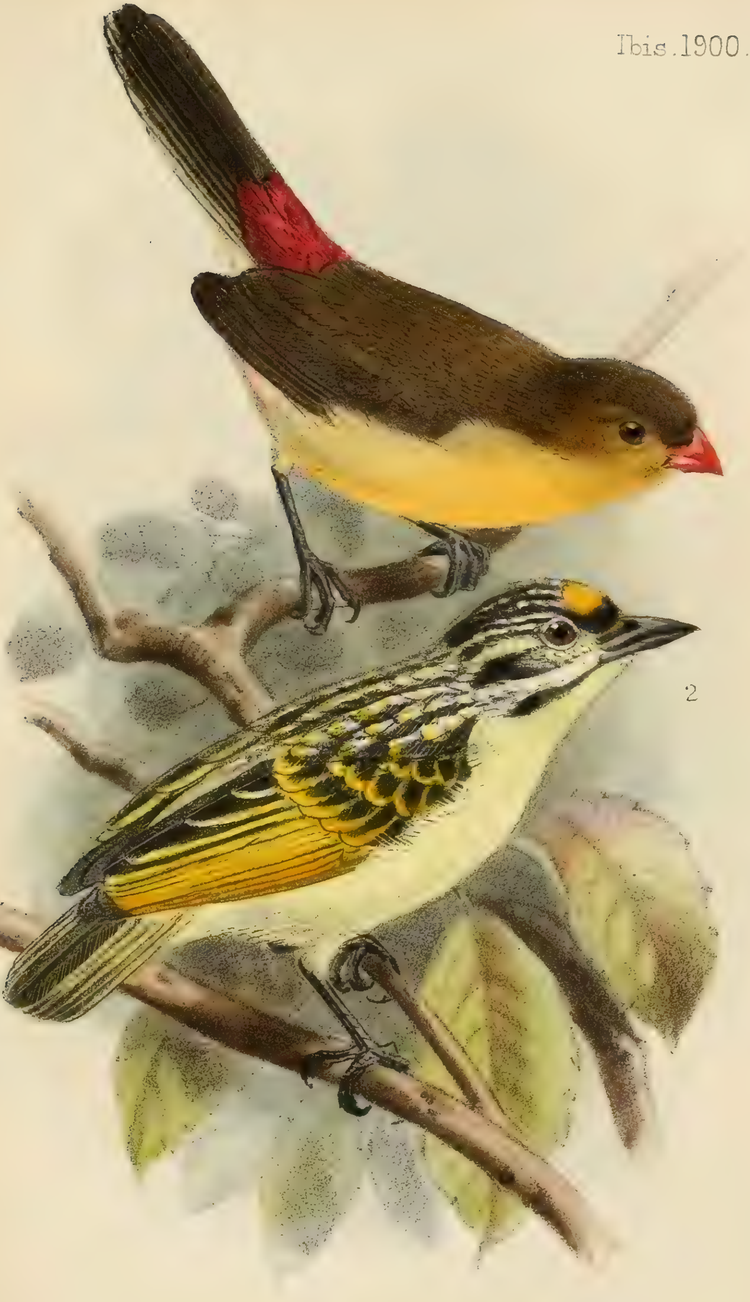
Sporæginthus subflavus (Vieill.); Sharpe, Cat. B. Brit. Mus. xiii. p. 324 (1899).

a. ♂. Gelongol, Abyssinia, 13 March, 1899. (No. 413.)

b, c. ♂ ♀. Sati, Abyssinia, 30 March, 1899. (Nos. 463, 464.)

Iris in *a* light hazel, in *b* and *c* red; bill red, ridge of culmen and suture of mandibles black; legs dusky.

Ibis. 1900. Pl. III.



J.G. Keulemans del. et lith.

Mintern Bros imp.

1 SPORÆGINTHUS MARGARITÆ
2 BARBATULA XANTHOSTICTA

34. AIDEMOSYNE CANTANS.

Aidemosyne cantans (Gm.); Sharpe, Cat. B. Brit. Mus. xiii. p. 371 (1890); id. P. Z. S. 1895, p. 466; Hawker, Ibis, 1899, p. 62.

a. ♀. Laga Hardim, Abyssinia, 14 January, 1899. (No. 191.)

Iris light brown; bill dark slate.

35. ESTRILDA MINOR.

Estrilda minor (Cab.); Sharpe, Cat. B. Brit. Mus. xiii. p. 393 (1890).

a. ♂. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 68.)

b. ♂. Lake Chercher, Abyssinia, 12 January, 1899. (No. 170.)

Iris brown; bill red; legs black.

[A Finch similar to this, but with a short tail, was observed, but not shot, at the Kassim river. These birds roost on the low scrub in flocks.—L.]

36. ESTRILDA RHODOPYGA.

Estrilda rhodopyga Sundev.; Sharpe, Cat. B. Brit. Mus. xiii. p. 396 (1890); id. P. Z. S. 1895, p. 466; Hawker, Ibis, 1899, p. 61.

a. ♂. Feyambiro, Abyssinia, 25 December, 1898. (No. 32.)

Iris brown; bill and legs black.

[After leaving Feyambiro we only once met with this Finch, a solitary example being seen at Kassim river.—L.]

37. ESTRILDA PHŒNICOTIS.

Estrilda phœnicotis Swains.; Sharpe, Cat. B. Brit. Mus. xiii. p. 400 (1890); id. P. Z. S. 1895, p. 467.

a. ♂ imm. Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 56.)

b. ♂. Laga Hardim, Abyssinia, 14 January, 1899. (No. 183.)

Iris in *a* light hazel, in *b* brown; base of bill red, tip black; legs light.

38. GRANATINA IANTHINOGASTRA.

Granatina ianthinogaster (Reichen.); Sharpe. Cat. B. Brit. Mus. xiii. p. 404 (1890); id. P. Z. S. 1895, p. 467; Hawker, Ibis, 1899, p. 62.

a, b. ♀ ♂. Hargeisa, Somaliland, 14 December, 1898. (Nos. 11, 12.)

c. ♀. Near Laga Hardim, Abyssinia, 15 January, 1899. (No. 195.)

d. ♂. Hawash, Abyssinia, 16 January, 1899. (No. 207.)

Iris light hazel; bill red; legs black.

[Very widely distributed, but seldom seen in such large flocks as most of the other small Finches.—L.]

39. ANAPLECTES BLUNDELLI, sp. n.

Adult male. Most nearly allied to *A. melanotis* (Lafr.), but to be distinguished from that species by having the back black instead of brown, a few feathers on the interscapular region being tipped with pale red, and the cheeks and ear-coverts deep black, this colour not extending to an imaginary line drawn down the side of the throat from the base of the mandible. In *A. melanotis* the black extends over the sides of the throat, considerably beyond this line. Total length about 5·7 inches, culmen 0·8, wing 3·4, tail 2·2, tarsus 0 8.

a. ♂. Beni Schongul, Abyssinia, 3 May, 1899. (No. 494.) [*Type of the species.*]

40. HETERHYPHANTES BAGLAFECHT.

Heterhyphantes baglafecht (Vieill.); Sharpe, Cat. B. Brit. Mus. xiii. p. 419 (1890).

a. ♀.	Derru, Abyssinia,	5 January, 1899.	(No. 115.)
b. ♂.	Baroma,	„	11 January, 1899.	(No. 156.)
c. ♂.	Jumjum,	„	4 March, 1899.	(No. 377.)
d. ♂.	Lekamte	„	16 March, 1899.	(No. 432.)

Iris pale yellow; bill black; legs in *a* and *b* brown, in *c* and *d* light.

[This Weaver is one of the most widely distributed birds of Shoan Abyssinia.—L.]

41. Hyphantornis galbula.

Hyphantornis galbula (Rüpp.); Sharpe, Cat. B. Brit. Mus. xiii. p. 442 (1890); id. P. Z. S. 1895, p. 468; Lort Phillips, Ibis, 1898, p. 397 (Somaliland).

a. ♂. Laga Hardim, Abyssinia, 14 January, 1899. (No. 193.)

Iris orange; bill black; legs light.

42. Hyphantornis abyssinicus.

Hyphantornis abyssinicus (Gm.); Sharpe, Cat. B. Brit. Mus. xiii. p. 453 (1890).

a. ♂. Baroma, Abyssinia, 11 January, 1899. (No. 155.)

Iris reddish orange; bill black; legs light brown.

[Impossible to distinguish from *H. spekii*, even through a good telescope; either one or the other was to be found in most of the valleys, especially to the south of Shoa.—L.]

43. Hyphantornis intermedius.

Hyphantornis intermedius (Rüpp.); Sharpe, Cat. B. Brit. Mus. xiii. p. 460 (1890).

a. Imm. Kassim river, Abyssinia, 18 January, 1899. (No. 218.)

Iris yellow; bill and legs dark brown.

[The adult male has a perfectly black head.—L.]

44. Hyphantornis vitellinus.

Hyphantornis vitellinus (Licht.); Sharpe, Cat. B. Brit. Mus. xiii. p. 462 (1890); id. P. Z. S. 1895, p. 468.

a. ♂. Hargeisa, Somaliland, 13 December, 1898. (No. 10.)

Iris, bill, and legs brown.

45. Hyphantornis spekii.

Hyphantornis spekii Heugl.; Sharpe, Cat. B. Brit. Mus. xiii. p. 469 (1890); Lort Phillips, Ibis, 1898, p. 397 (Somaliland).

a. ♂. Feyambiro, Abyssinia, 26 December, 1898, (No. 35.)

Iris, bill, and legs light brown.

[This species, or *Hyphantornis abyssinicus* (No. 155), was to be seen in most of the valleys of Southern Shoa.—L.]

46. TEXTOR ALBIROSTRIS.

Textor albirostris (Vieill.); Sharpe, Cat. B. Brit. Mus. xiii. p. 508 (1890).

a. ♂. Kassim river, Abyssinia, 20 January, 1899. (No. 242.)

Iris brown; bill reddish brown; legs brown.

47. CHRYSOMITRIS NIGRICEPS.

Chrysomitris nigriceps (Rüpp.); Sharpe, Cat. B. Brit. Mus. xii. p. 222 (1888); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 274 (1888).

a. ♂. Gedda, Abyssinia, 1 February, 1899. (No. 279.)

Bill and legs black.

48. CHRYSOMITRIS CITRINELLOIDES.

Chrysomitris citrinelloides (Rüpp.); Sharpe, Cat. B. Brit. Mus. xii. p. 229 (1888); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 274 (1888).

Chrysomitris melanops (Heugl.); Sharpe, Cat. B. Brit. Mus. xii. p. 229 (1888).

a. ♂. Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 55.)

b. ♀. Warabili, Abyssinia, 3 January, 1899. (No. 100.)

c. ♀. Bilo, Abyssinia, 10 March, 1899. (No. 388.)

Iris brown; bill and legs dark.

[We usually met with this Siskin singly or in pairs, in company with flocks of *Quelea æthiopica*.—L.]

49. PETRONIA DENTATA.

Petronia dentata (Sundev.); Sharpe, Cat. B. Brit. Mus. xii. p. 295 (1888).

Xanthodira dentata Salvad. Ann. Mus. Civ. Gen. xxvi. p. 277 (1888).

a. ♀. Maritchi, Abyssinia, 22 March, 1899. (No. 443.)

Iris brown; bill dusky; legs slate.

The female before us apparently belongs to this species, though it is rather darker on the upper parts, and has the rufous-white superciliary stripes more strongly marked than in any of the female examples in the British Museum Collection. The bill is, moreover, slightly longer.

50. PASSER SWAINSONI.

Passer swainsoni (Rüpp.); Sharpe, Cat. B. Brit. Mus. xii. p. 334 (1888); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 278 (1888).

a. ♂. Hado, Abyssinia, 24 December, 1898. (No. 23.)

b. ♀. Baroma, Abyssinia, 10 January, 1899. (No. 150.)

c. ♂. Kassim river, Abyssinia, 19 January, 1899. (No. 239.)

a. Iris brown; bill black; legs brown.

b and *c.* Iris brown; bill dark; legs brown.

[Common throughout Abyssinia.—L.]

51. POLIOSPIZA TRISTRIATA.

Poliospiza tristriata (Rüpp.); Sharpe, Cat. B. Brit. Mus. xii. p. 345 (1888); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 276 (1888).

a. ♂. Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 57.)

b. ♂. Derru, Abyssinia, 5 January, 1899. (No. 113.)

c. ♂. Kosso, Abyssinia, 8 February, 1899. (No. 305.)

Iris light brown; bill dusky; legs brown.

[Usually met with in pairs. This Finch is more an inhabitant of woods than of cornfields.—L.]

52. SERINUS ICTERUS.

Serinus icterus Bonn.; Sharpe, Cat. B. Brit. Mus. xii. p. 356 (1888).

a. ♀ imm. Bilo, Abyssinia, 10 March, 1899. (No. 387.)

b. ♂ imm. Bilo, Abyssinia, 10 March, 1899. (No. 394.)

a. Iris brown; bill and legs dark brown.

b. Iris brown; bill dark; legs black.

An immature male and female, apparently of this species.

[Met with in the valleys of Central and Southern Abyssinia.—L.]

53. SERINUS STRIOLATUS.

Serinus striolatus (Rüpp.); Sharpe, Cat. B. Brit. Mus. xii. p. 363 (1888); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 271 (1888).

a. ♂. Gedda, Abyssinia, 1 February, 1899. (No. 282.)

Iris hazel; bill and legs dark.

54. **Serinus xanthopygius.**

Serinus xanthopygius Rüpp.; Sharpe, Cat. B. Brit. Mus. xii. p. 365 (1888).

a. ♂. Gerru, Abyssinia, 6 February, 1899. (No. 296.)

Iris brown; bill and legs dark.

55. **Serinus reichenowi.**

Serinus reichenowi Salvad. Ann. Mus. Civ. Gen. xxvi. p. 272 (1888) [Shoa].

a, b. ♂ ♀. Hado, Abyssinia, 24 December, 1898. (Nos. 25, 26.)

Iris brown; bill and legs dusky.

The well-marked white eyebrow and spotted chest serve at once to distinguish this species from the closely-allied *S. xanthopygius* Rüpp.

56. **Emberiza hortulana.**

Emberiza hortulana Linn.; Sharpe, Cat. B. Brit. Mus. xii. p. 530 (1888); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 268 (1888)

a, b. ♂ ♂. Balti, Abyssinia, 23 January, 1899. (Nos. 269, 270.)

Iris brown; bill dark; legs light.

[The Ortolan inhabits the high plateaux of Central Abyssinia where a few trees are to be found.—L.]

57. **Emberiza poliopleura.**

Fringillaria poliopleura, Salvad. Ann. Mus. Civ. Gen. xxvi. p. 269 (1888) [Shoa].

Emberiza poliopleura Sharpe, P. Z. S. 1895, p. 471; Hawker, Ibis, 1899, p. 49.

a. ♂. Acabsiyo, Somaliland, 17 December, 1898. (No. 15.)

b. ♂. Hawash, Abyssinia, 16 January, 1899. (No. 208.)

a. Iris brown; bill and legs horn-colour.

b. Iris brown; bill dark; legs light.

The examples of this rare species agree with Salvadori's description and with a typical example in the British Museum.

[This handsome Bunting was occasionally met with on the western side of Abyssinia, but was distinctly a rare bird.—L.]

58. Fringillaria septemstriata.

Fringillaria septemstriata (Rüpp.); Sharpe, Cat. B. Brit. Mus. xii. p. 559 (1888); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 269 (1888).

a. ♂. Gerru, Abyssinia, 6 February, 1899. (No. 293.)

Iris brown; bill dark; legs brown.

The true *F. septemstriata* (Rüpp.), with almost the whole of the inner webs of the primaries rufous, and only the tips dusky, is apparently not met with east of Abyssinia; westward its range extends to the River Niger, and it has been got as far south as Lake Victoria Nyanza by Mr. F. J. Jackson. None of the birds obtained by Mr. Lort Phillips in Somaliland belong to this species, but should, in our opinion, be referred to the Southern form, *F. tahapisi*. The true *F. septemstriata* has the whole of the outer secondaries chestnut, only the terminal portion (about 0·5 inch) being dusky. The bird shot by Lord Lovat at Laga Hardim, in the north-west of the Galla country, can only be referred to *F. tahapisi*.

[Seen at intervals throughout our journey almost as far west as the Blue Nile.—L.]

59. Fringillaria tahapisi.

Fringillaria tahapisi (Smith); Sharpe, Cat. B. Brit. Mus. xii. p. 558 (1888); Lort Phillips, Ibis, 1898, p. 399 [N. Somaliland].

Fringillaria septemstriata Lort Phillips (nec Rüppell), Ibis, 1898, p. 399 [N. Somaliland].

a. ♀ [evidently ♂]. Laga Hardim, Abyssinia, 14 January, 1899. (No. 181.)

Iris brown; bill dark; legs brown.

60. Tephrocorys ruficeps.

Tephrocorys ruficeps (Rüpp.); Sharpe, Cat. B. Brit. Mus. xiii. p. 563 (1890); id. P. Z. S. 1895, p. 471.

a, b. ♂ ♀. Jifadensa, Abyssinia, 22 January, 1899. (Nos. 253, 254.)

c. ♂ juv. Balti, Abyssinia, 23 January, 1899. (No. 267.)

a, b. Iris brown; bill and legs dark.

c. Iris brown; bill dark; legs light.

Specimen *c*, a young male, is in interesting plumage, and differs from the adult chiefly in having the top of the head and the greater part of the back and wing-coverts very dark brown, with a small white spot at the extremity of most of the feathers; and the chest, breast, and sides buff, with a subterminal bar or spot of blackish brown.

[This Lark has the power of raising its crest. It is common at all altitudes of Shoan Abyssinia.—L.]

61. ALAUDA PRÆTERMISSA.

Alauda prætermissa Blanf.; Sharpe, Cat. B. Brit. Mus. xiii. p. 579 (1890).

a. ♂. Jifadensa, Abyssinia, 22 January, 1899. (No. 256.)

Iris brown; bill dark; legs light.

[Very common on the highlands. It appeared to feed in small flocks.—L.]

62. MIRAFRA GILLETTI.

Mirafra gilletti Sharpe, P. Z. S. 1895, p. 472; Lort Phillips, Ibis, 1898, p. 401 [N. Somaliland]; Hawker, Ibis, 1899, p. 64.

a. ♂. Hawash, Abyssinia, 16 January, 1899. (No. 206.)

Iris brown; bill dark; legs light.

63. SPILOCORYDON HYPERMETRUS.

Spilocorydon hypermetrus Reichenow; Sharpe, Cat. B. Brit. Mus. xiii. p. 620 (1890).

a. ♂. Kassim river, Abyssinia, 18 January, 1899. (No. 223.)

b. ♂. Gadaburka, Abyssinia, 21 January, 1899. (No 249.)

a. Iris brown; culmen dark, mandible whitish; legs light horn-colour. Wing 4·6 inches, tail 3·4.

b. Iris hazel; culmen dark; mandible whitish; legs light horn-colour. Wing 4·3 inches, tail 3·4.

The measurements of these birds are somewhat larger than those given by Reichenow in his original description.

[Very common in the Hawash plain. This Lark is very shy and can be approached only when perching in the early morning. During the day it soars occasionally to a height of ten feet or so from the ground, where it hovers for two or three minutes at a time. On one occasion, in company with some Abyssinians, I surrounded a bird thus hovering over perfectly bare ground, but though we kept our eyes on the ground we failed either to discover the Lark, when settled, or to get it to rise again.—L.]

64. PYRRHULAUDA LEUCOTIS.

Pyrrhulauda leucotis (Stanl.); Sharpe, Cat. B. Brit. Mus. xiii. p. 657 (1890).

a. ♂. Kassim river, Abyssinia, 18 January, 1899. (No. 219.)

Iris brown; bill and legs bluish white.

65. MOTACILLA ALBA.

Motacilla alba Linn.; Sharpe, Cat. Brit. Mus. x. 464 (1885); Hawker, Ibis, 1899, p. 66.

a. ♀. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 70.)

b. ♂. Kassim river, Abyssinia, 18 January, 1899. (No. 229.)

Iris brown; bill and legs black.

[This Wagtail takes the place of *M. vidua* on all the rivers not in the Nile basin (Hawash, Kassim river, Gibbeh, and Turgu).—L.]

66. MOTACILLA VIDUA.

Motacilla vidua Sundev.; Sharpe, Cat. B. Brit. Mus. x. p. 488 (1885); id. P. Z. S. 1895, p. 473.

a. ♀. Didesa river, Abyssinia, 21 March, 1899. (No. 437.)

Iris brown; bill and legs black.

[This Wagtail was found only on the Blue Nile and its tributaries, the Didesa and Dabous rivers.—L.]

67. MOTACILLA MELANOPE.

Motacilla melanope Pall.; Sharpe, Cat. B. Brit. Mus. x. p. 497 (1885); Lort Phillips, Ibis, 1898, p. 401 [Wagga Mountain, Somaliland, 7000 feet].

a. ♂. Baroma, Abyssinia, 10 January, 1899. (No. 145.)
b. ♀. Gedda, Abyssinia, 1 February, 1899. (No. 280.)

Iris brown; bill dark; legs light.

[I shot one specimen of the Grey Wagtail in the middle of the Kuni forest, several miles from water.—L.]

68. MOTACILLA CAMPESTRIS.

Motacilla campestris Pall.; Sharpe, Cat. B. Brit. Mus. x. p. 510, pl. vi. figs. 1 & 2 (1885).

a. ♂. Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 53.)

Iris light hazel; bill and legs black.

[A very widely-distributed Wagtail, usually seen in flocks along with *Anthus cervinus*.—L.]

69. MOTACILLA FELDEGGI.

Motacilla feldeggi Michah.; Sharpe, Cat. B. Brit. Mus. x. p. 527, pl. viii. figs. 1–4 (1885).

a. ♂. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 66.)

Iris brown; bill and legs black.

70. ANTHUS TRIVIALIS.

Anthus trivialis (Linn.); Sharpe, Cat. B. Brit. Mus. x. p. 543 (1885); id. P. Z. S. 1895, p. 473.

a. ♂. Ganti, Abyssinia, 28 March, 1899. (No. 459.)

Iris brown; bill dark; legs light.

71. ANTHUS PYRRHONOTUS.

Anthus pyrrhonotus (Vieill.); Sharpe, Cat. B. Brit. Mus. x. p. 555 (1885).

Anthus gouldi Fraser, P. Z. S. 1843, p. 27.

a. ♂. Arriro, Abyssinia, 19 February, 1899. (No. 352.)
b. ♂. Mendi, Abyssinia, 2 April, 1899. (No. 471.)
c. Imm. Mendi, Abyssinia, 8 April, 1899. (No. 479.)

Iris brown; upper mandible black, lower yellow towards the base; legs brown.

The three examples obtained are apparently referable to *A. gouldi* Fraser, which Dr. Sharpe regards as a small West-African form of *A. pyrrhonotus*. The upper parts of these birds, which are in somewhat worn plumage, are very dark brown, with faint traces of light edgings to the feathers; the underparts are deep tawny buff, darkest on the under tail-coverts. The wing in specimen *a* measures 3·8, and in *b* 4·0 inches, these measurements being unusually large.

[This Pipit seemed fond of the high grass-country, and was often observed to perch in trees.—L.]

72. ANTHUS SORDIDUS.

Anthus sordidus Rüpp.; Sharpe, Cat. B. Brit. Mus. x. p. 560 (1885); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 264 (1888); Lort Phillips, Ibis, 1898, p. 402 [N. Somaliland]; Hawker, Ibis, 1899, p. 66.

a. ♂. Staboolo, Somaliland, 21 December, 1898. (No. 19.)

b. ♂. Feyambiro, Abyssinia, 26 December, 1898. (No. 36.)

c. ♂. Hirna, Abyssinia, 9 January, 1899. (No. 141.)

d. ♀. Gadaburka, Abyssinia, 21 January, 1899. (No. 248.)

Iris brown; bill dark brown; legs light brown.

Specimens *b, c, d* are undoubtedly referable to *A. sordidus* Rüpp. Specimen *a* also apparently belongs to this species, but the feathers of the interscapular region and back are nearly uniform in colour and closely approach those of *A. pyrrhonotus*. Our knowledge of this group of Pipits is at present somewhat unsatisfactory, and when more material is available a thorough revision of the local races should prove interesting.

73. ANTHUS RUFULUS.

Anthus rufulus Vieill.; Sharpe, Cat. B. Brit. Mus. x. p. 574 (1885).

Anthus cinnamomeus Salvad. Ann. Mus. Civ. Gen. xxvi. p. 264 (1888).

a. ♂. Jig Jegga, Abyssinia, 23 December, 1898. (No. 20.)

b. ♂. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 67.)

c. ♂. Jifadensa, Abyssinia, 22 January, 1899. (No. 255.)

d. ♀. Balti, Abyssinia, 23 January, 1899. (No. 261.)

e. ♀. Balti, Abyssinia, 23 January, 1899. (No. 264.)

f. ♂. Balti, Abyssinia, 23 January, 1899. (No. 271.)

g. Ad. Kuntaba, Abyssinia, 7 February, 1899. (No. 301.)

Iris light brown; bill dark; legs light.

[Widely distributed.—L.]

74. ANTHUS CERVINUS.

Anthus cervinus (Pall.); Sharpe, Cat. B. Brit. Mus. x. p. 585 (1885); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 265 (1888); Lort Phillips, Ibis, 1898, p. 402 [N. Somaliland].

a. ♀. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 71.)

b. ♂. Baroma, Abyssinia, 10 January, 1899. (No. 144.)

c. ♂. Balti, Abyssinia, 23 January, 1899. (No. 272.)

d. ♂. Damai Damash, Abyssinia, 23 February, 1899. (No. 369.)

e. ♂. Jaka, Abyssinia, 27 February, 1899. (No. 375.)

a and *e.* Iris brown; bill dark; legs light.

b, c, and *d.* Iris brown; bill dark; legs brown.

Specimen *b* is still in winter plumage, with the throat white, the rufous just beginning to make its appearance; in all the other examples the rufous is more or less developed, while in specimen *c* it is of a distinctly vinaceous tint.

75. MACRONYX FLAVICOLLIS.

Macronyx flavicollis Rüpp.; Sharpe, Cat. B. Brit. Mus. x. p. 625 (1885); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 265 (1888).

a. ♂. Jifadensa, Abyssinia, 22 January, 1899. (No. 257.)

b. ♀. Balti, Abyssinia, 23 January, 1899. (No. 263.)

Iris brown; bill dark; legs light.

[A bird of the high plateaux, often observed to perch on trees. The black on the throat appeared to be more pronounced in specimens from the west, but scarcity of cartridges forbade my ascertaining for certain.—L.]

76. NECTARINIA TACAZZE.

Nectarinia tacazze (Stanley); Gadow, Cat. B. Brit. Mus. ix. p. 4 (1884); Salvad. Ann. Mus. Civ. Gen. xxi. p. 138 (1884), & xxvi. p. 244 (1888).

a. ♂ imm. Tra, Abyssinia, 7 January, 1899. (No. 134.)

b. ♂ imm. Baroma, Abyssinia, 10 January, 1899 (No. 152.)

c. ♂ imm. Kuntaba, Abyssinia, 7 February, 1899. (No. 300.)

d. ♂ imm. Lekamte, Abyssinia, 16 March, 1899. (No. 431.)

Iris brown; bill and legs black.

[This bird was frequently seen from January to April, but never in full plumage.—L.]

77. NECTARINIA CUPREONITENS.

Nectarinia famosa (Linn.), northern race *N. cupreonitens*, Gadow, Cat. B. Brit. Mus. ix. p. 6 (1884).

Nectarinia famosa? Salvad. Ann. Mus. Civ. Gen. xxi. p. 138 (1884).

a. ♂ imm. Kosso, Abyssinia, 8 February, 1899. (No. 304.)

Iris brown; bill and legs black.

[Fairly common throughout Abyssinia, though seldom seen on the upper plateaux.—L.]

78. NECTARINIA PULCHELLA.

Nectarinia pulchella (Linn.); Gadow, Cat. B. Brit. Mus. ix. p. 7 (1884); Salvad. Ann. Mus. Civ. Gen. xxi. p. 137 (1884), & xxvi. p. 244 (1888).

a. ♂ imm. Kassim river, Abyssinia, 20 January, 1899. (No. 241.)

b. ♂ imm. Jawaha, Abyssinia, 21 February, 1899. (No. 355.)

Iris brown; bill and legs black.

[Difficult to distinguish. I have no record of its distribution.—L.]

79. Cinnyris affinis.

Cinnyris affinis (Rüpp.); Gadow, Cat. B. Brit. Mus. ix. p. 40 (1884); Salvad. Ann. Mus. Civ. Gen. xxi. p. 140 (1884), & xxvi. p. 246 (1888).

a. [♂ imm.] Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 50.)

b. [♀ ad.] Abyssinia.

Bill and legs black.

80. Cinnyris habessinica.

Cinnyris habessinica (Hempr. & Ehr.); Gadow, Cat. B. Brit. Mus. ix. p. 52 (1884); Sharpe, P. Z. S. 1895, p. 474; Lort Phillips, Ibis, 1898, p. 402 [N. Somaliland]; Hawker, Ibis, 1899, p. 67.

a. ♂. Kassim river, Abyssinia, 19 January, 1899. (No. 237.)

Iris brown; bill and legs black.

[Only observed at the Kassim river.—L.]

81. Cinnyris cruentata.

Cinnyris cruentata (Rüpp.); Gadow, Cat. B. Brit. Mus. ix. p. 93 (1884).

Chalcomitra cruentata, Salvad. Ann. Mus. Civ. Gen. xxi. p. 141 (1884).

Chalcomitra scioana, Salvad. Ann. Mus. Civ. Gen. xxvi. p. 247 (1888).

a. ♂ juv. Lake Chercher, Abyssinia, 11 Jan., 1899. (No. 163.)
b. ♂ ad. „ „ 12 Jan., 1899. (No. 172.)
c. ♂ ad. Hawash, Abyssinia, 16 January, 1899. (No. 209.)
d. ♀ ad. Arriro, „ 19 February, 1899. (No. 347.)
e. ♂ ad. Bilo, „ 10 March, 1899. (No. 390.)

Iris brown; bill and legs black.

C. scioana Salvad. cannot be maintained.

82. Zosterops abyssinica.

Zosterops abyssinica Guér.; Gadow, Cat. B. Brit. Mus. ix. p. 168 (1884); Hawker, Ibis, 1899, p. 67.

a. ♀. Laga Hardim, Abyssinia, 14 January, 1899, (No. 182.)

Iris brown; bill and legs dark.

[This active little bird swarms all over the thick woods of the Abyssinian valleys. Like *Zosterops poliogaster*, it is widely distributed throughout the low country.—L.]

83. ZOSTEROPS POLIOGASTER.

Zosterops poliogaster Heugl.; Gadow, Cat. B. Brit. Mus. ix. p. 169 (1884); Salvad. Ann. Mus. Civ. Gen. xxi. p. 141 (1884), & xxvi. p. 249 (1888).

a. ♂. Warabili, Abyssinia, 3 January, 1899. (No. 101.)

Iris brown; bill black; legs dark.

[A very common bird. The telephone-wire, along which one marches for 200 weary miles to Addis Abbeba, seems to be a cause of great destruction to this beautiful little Silver-eye, and many specimens were brought in by our mule-men in the hope of receiving the dollar reward given for a new bird.—L.]

84. PARUS LEUCOMELAS.

Parus leucomelas Rüpp. Neue Wirbelth., Vög. p. 100, pl. 37. fig. 2 (1835).

Parus niger [*a.* northern race] Gadow, Cat. B. Brit. Mus. viii. p. 7 (1883).

Melaniparus leucomelas, Salvad. Ann. Mus. Civ. Gen. xxvi. p. 243 (1888).

a. ♂. Telagubaie, Abyssinia, 17 February, 1899. (No. 327.)

Iris brown; bill black; legs dark slate-colour.

85. PARUS LEUCONOTUS.

Parus leuconotus Guér.; Gadow, Cat. B. Brit. Mus. viii. p. 10 (1883).

Melaniparus leuconotus Salvad. Ann. Mus. Civ. Gen. xxi. p. 137 (1884), & xxvi. p. 243 (1888).

a. ♀. Burka, Abyssinia, 6 January, 1899. (No. 120.)

Iris brown; bill and legs black.

86. ÆGITHALUS MUSCULUS.

Ægithalus musculus, Hartl. J. f. O. 1882, p. 326 [Lado]; Sharpe, P. Z. S. 1895, p. 476.

Anthoscopus musculus, Hawker, Ibis, 1899, p. 68 [Somaliland].

a. Ad. Hawash, Abyssinia, 16 January, 1899. (No. 210.)

Iris light brown; bill and legs black.

This is another instance of a species of Equatorial Africa which extends its range into Abyssinia and Somaliland, where it had been previously met with by Mr. Hawker.

87. TELOPHONUS BLANFORDI (Sharpe); Gadow, Cat. B. Brit. Mus. viii. p. 127 (1883); Sharpe, P. Z. S. 1895, p. 479.

a, b. ♂ ad. Laga Hardim, Abyssinia, 14 January, 1899. (Nos. 180, 187.)

c. ♀. Laga Hardim, Abyssinia, 15 January, 1899. (No. 196.)

d. Philwaha, Abyssinia, 16 February, 1899. (No. 316.)

e. ♂. Gelongol, Abyssinia, 13 March, 1899. (No. 418.)

a, c. Iris brown, with 5 white spots round pupil; bill black; legs light slate-colour.

b, d. Iris brown, with 7 white spots round pupil; bill black; legs light slate-colour.

e. Iris brown, with 3 white spots round pupil; bill black; legs slate-colour.

[The number of spots round the pupil varies from 3 to 7 in different individuals.—L.]

88. TELOPHONUS MINUTUS.

Telophonus minutus Hartl.; Gadow, Cat. B. Brit. Mus. viii. p. 128 (1883).

a. ♀. Gelongol, Abyssinia, 13 March, 1899. (No. 407.)

b. ♂. Mendi, Abyssinia, 6 April, 1899. (No. 477.)

c. ♀ imm. Mendi, Abyssinia, 19 April, 1899. (No. 485.)

a. Iris brickdust-red; bill dark; legs slate-colour.

b. Iris pale brickdust-red; bill black; legs dark.

c. Iris light brickdust-red; bill dark; legs light slate-colour.

The occurrence of this species in South-western Abyssinia extends the known range about 700 miles in a north-easterly direction.

[This bird was most common in the high grass and bamboo of the Dabous valley.—L.]

89. Dryoscopus funebris.

Dryoscopus funebris Hartl.; Gadow, Cat. B. Brit. Mus. viii. p. 133 (1883); Sharpe, P. Z. S. 1895, p. 478; Lort Phillips, Ibis, 1898, p. 406 [N. Somaliland].

a. Ad. Ketchen Waha, Abyssinia, 16 January, 1899. (No. 202.)

Iris brown; bill and legs black.

[Like the rest of the Bush-Shrikes, this bird is seldom seen. It was never observed west of Addis Abbeba.—L.]

90. Dryoscopus æthiopicus.

Dryoscopus æthiopicus (Gm.); Gadow, Cat. B. Brit. Mus. viii. p. 139 (1883); Sharpe, P. Z. S. 1895, p. 478; Lort Phillips, Ibis, 1898, p. 405 [N. Somaliland]; Hawker, Ibis, 1899, p. 69.

a. ♂. Lake Chercher, Abyssinia, 12 January, 1899. (No. 176.)

Iris brown; bill black; legs dark slate-colour.

[The note of this bird meets the Abyssinian traveller's ears every day. The double call-note is caused by the male and the answering female, the call and reply being so rapid that unless one actually has both birds in sight one would hardly imagine that the reply of the female could be so instantaneous. In addition to the call-note, the male whistles an octave on a descending scale, and the female utters the "gurr" typical of the Shrike family. I am aware that this explanation of the double note of *Dryoscopus æthiopicus* is opposed to the observations of Rüppell and Blanford, but I state what I have myself observed.—L.]

91. Dryoscopus gambensis.

Dryoscopus gambensis (Licht.); Gadow, Cat. B. Brit. Mus. viii. p. 146 (1883); Sharpe, P. Z. S. 1895, p. 478.

a. ♂. Hado, Abyssinia, 24 December, 1898. (No. 22.)
b. ♀. Arriro, Abyssinia, 19 February, 1899. (No. 348.)
c. ♀. Arriro, Abyssinia, 19 February, 1899. (No. 349.)
d. ♂. Maritchi, Abyssinia, 22 March, 1899. (No. 441.)
e. Ganti, Abyssinia, 28 March, 1899. (No. 457.)
f. ♂. Mendi, Abyssinia, 28 April, 1899. (No. 488.)

Iris red; bill black; legs slate-colour.

[A bush-haunting bird. Very widely distributed.—L.]

92. Laniarius cruentus.

Laniarius cruentus (Hempr. & Ehr.); Gadow, Cat. B. Brit. Mus. viii. p. 152 (1883); Sharpe, P. Z. S. 1895, p. 477; Lort Phillips, Ibis, 1898, p. 405 [N. Somaliland]; Hawker, Ibis, 1899, p. 68.

a. ♀. Gobeyla, Somaliland, 11 December, 1898. (No. 2.)

Iris brown; bill black; legs slate-colour.

b. ♀. Hargeisa, Somaliland, 13 December, 1898. (No. 3.)

c. ♀. Kassim river, Abyssinia, 18 January, 1899. (No. 220.)

[Seen in Abyssinia only on the Hawash plains. Like *Lanius pomeranus,* it belongs rather to the burnt-up foreshore of Donkali and Somaliland than to the highlands of Abyssinia.—L.]

93. Laniarius erythrogaster.

Laniarius erythrogaster (Rüpp.); Gadow, Cat. B. Brit. Mus. viii. p. 154 (1883).

a. ♀. Famaka, Blue Nile, 6 May, 1899. (No. 497.)

Iris yellow; bill and legs black.

[Very common along the Blue Nile, its fine double note, with the "gurr" of the female, peculiarly harsh even for a member of the Shrike family, at once betrays the presence of this bird.—L.]

94. Nilaus afer.

Nilaus afer (Lath.); Gadow, Cat. B. Brit. Mus. viii. p. 169, pl. v. fig. 2 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 136 (1884), & xxvi. p. 242 (1888).

a. ♂. Kassim river, Abyssinia, 18 January, 1899. (No. 225.)

b. ♂. Wama, Abyssinia, 12 March, 1899. [No. 401.]

a. Iris brown; bill and legs black.

b. Iris brown; bill and legs dark slate-colour.

[A rare bird, met with only on the two occasions when specimens were procured.—L.]

95. Lanius excubitorius.

Lanius excubitorius Des Murs; Gadow, Cat. B. Brit. Mus.

viii. p. 253 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 130 (1884), & xxvi. p. 239 (1888).

a, b. ♂ ad. Philwaha, Abyssinia, 16 February, 1899. (Nos. 321, 322.)

Iris brown; bill and legs black.

[This Shrike was always found in family parties of from five to ten in number. Though very common locally, with the exception of a solitary bird seen at the Didesa river, it was met with only in the Djimma valley.—L.]

96. LANIUS HUMERALIS.

Lanius humeralis Stanley; Gadow, Cat. B. Brit. Mus. viii. p. 255 (1883); Sharpe, P. Z. S. 1895, p. 476.

a, b. ♂ ♀. Harrar, Abyssinia, 27 December, 1898. (Nos. 40, 46.)

c. ♀. Gadaburka, Abyssinia, 21 January, 1899. (No. 250.)

d. ♀. Ticka Tcheeka, Abyssinia, 22 February, 1899. (No. 365.)

e. ♂ imm. Gitemma, Abyssinia, 14 March, 1899. (No. 424.)

f. ♀ imm. Guatti, Abyssinia, 27 March, 1899. (No. 456.)

a, b, c, d, f. Iris brown; bill and legs black.

e. Iris brown; bill and legs dark slate-colour.

[The most widely-distributed bird in Abyssinia proper. It makes an open untidy nest, usually containing about five eggs, of a pale green colour, with brown spots at the larger end. It was one of the earliest birds to nest (March 1st).—L.]

97. LANIUS NUBICUS.

Lanius nubicus Licht.; Gadow, Cat. B. Brit. Mus. viii. p. 282 (1883).

a. ♂. Kassim river, Abyssinia, 20 January, 1899. (No. 243.)

Iris brown; bill steel-blue; legs black.

[The only example of this Shrike met with during our journey was the one secured on the Kassim river.—L.]

98. Lanius pomeranus.

Lanius auriculatus P. L. S. Müller; Gadow, Cat. B. Brit. Mus. viii. p. 283 (1883).

Lanius pomeranus Hawker, Ibis, 1899, p. 68 [Somaliland].

a. ♀. Gadaburka, Abyssinia, 21 January, 1899. (No. 251.)

Iris, bill, and legs brown.

[The Woodchat-Shrike was met with in Abyssinia only on the Hawash plain, though we had come across it in Western Somaliland; it was never seen at any great elevation.—L.]

99. Bradyornis pallidus.

Bradyornis pallidus (Müller); Sharpe, Cat. B. Brit. Mus. iii. p. 310 (1877).

a. ♂. Arriro, Abyssinia, 18 February, 1899. (No. 340.)

Iris brown; bill and legs black.

This species was originally described by Müller from Abyssinia and Kordofan. The male collected at Arriro agrees perfectly with the original description and with examples in the British Museum from Bogos-land (*Esler*), having the wing 3·75 and the tail 3·3 inches in length, while the under wing-coverts, axillaries, inner margins of the quills, vent, and under tail-coverts are of the same pale vinaceous red.

Birds from Lamu, Mombasa, and Dar-es-Salaam, as well as those from Gosa and Langomeri, in Equatorial Africa (*Emin*), also apparently belong to this species, but are somewhat smaller, as shown by the measurements of both the wing and tail. A male has the wing 3·3, tail 2·6 inches; two females measure, wing 3·1, tail 2·7 inches.

A number of birds from Zomba, British Central Africa, and other localities have been included in *B. pallidus*, but this identification does not appear to be quite satisfactory.

100. Bradyornis chocolatinus.

Curruca chocolatina Rüpp. Syst. Uebers. p. 37, pl. xiv. (1845) [immature].

Muscicapa chocolatina Rüpp. Syst. Uebers. p. 49, pl. xx. (1845) [adult].

Bradyornis chocolatina (Rüpp.); Sharpe, Cat. B. Brit. Mus. iii. p. 311 (1877); Hartert, Kat. Mus. Senck. p. 97 (1891).

Lioptilus chocolatinus Salvad. Ann. Mus. Civ. Gen. xxi. p. 127 (1884), & xxvi. p. 237 (1888).

a. ♂. Jumjum, Abyssinia, 4 March, 1899. (No. 378.)

Iris brown; bill slate-colour; legs black.

101. Melænornis schistacea.

Melænornis schistacea Sharpe, P. Z. S. 1895, p. 481.

a. ♀. Harrar, Abyssinia, 27 December, 1898. (No. 42.)

Iris brown; bill and legs black.

This species was first obtained by Dr. Donaldson Smith in the Darro Mountains, near the Shebeli river. The Harrar bird extends the known range of this species more than 300 miles further north.

102. Prionops poliocephalus.

Prionops poliocephalus (Stanley); Sharpe, Cat. B. Brit. Mus. iii. p. 321 (1877); Salvad. Ann. Mus. Civ. Gen. xxi. p. 136 (1884).

a. ♂. Beni Schongul, Abyssinia, 3 May, 1899. (No. 493.)

Iris yellow; bill black; legs yellow.

[Seen in small flocks in the valley of the Blue Nile.—L.]

103. Sylvia atricapilla.

Sylvia atricapilla (Linn.); Seebohm, Cat. B. Brit. Mus. v. p. 23 (1881).

a. ♂. Hirna, Abyssinia, 8 January, 1899. (No. 139.)

Iris brown; bill black; legs dusky.

Evidently a winter visitor, but its occurrence so far south is worthy of note.

[Inhabits dense bush, where it is difficult to approach and rarely seen or heard.—L.]

104. Acrocephalus phragmitis.

Acrocephalus phragmitis (Bechst.); Seebohm, Cat. B. Brit. Mus. v. p. 91 (1881).

a. ♀. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 72.)

Iris brown; bill dark; legs sage-green.

105. Phylloscopus trochilus.

Phylloscopus trochilus (Linn.); Seebohm, Cat. B. Brit. Mus. v. p. 56 (1881); Sharpe, P. Z. S. 1895, p. 481.

a. Ganti, Abyssinia, 28 March, 1899. (No. 461.)

Iris brown; bill light; legs dark.

[The Willow-Warbler was once seen, and then only a single specimen.—L.]

106. Phylloscopus rufus.

Phylloscopus rufus (Bechst.); Seebohm, Cat B. Brit. Mus. v. p. 60 (1881); Lort Phillips, Ibis, 1898, p. 408 [N. Somaliland].

a. ♂. Chelunco, Abyssinia, 4 January, 1899. (No. 109.)
b. ♀. Baroma, Abyssinia, 10 January, 1899. (No. 143.)

a. Iris brown; bill and legs dark.

b. Iris light hazel; bill and legs black.

[The Chiffchaff was very common in all the wooded valleys of Abyssinia.—L.]

107. Lusciniola abyssinica.

Lusciniola abyssinica Weld-Blundell & Lovat, Bull. B.O.C. vol. x. p. xix (1899).

a. ♂. Lake Chercher, Abyssinia, 12 January, 1899. (No. 165.) [*Type of the species.*]

Though allied to *L. thoracica* (Blyth) and *L. mandellii* (Brooks), this Grasshopper-Warbler may be at once distinguished by having the upper parts of a darker and richer brown, tinged with rufous on the lower back and rump. The *buff-coloured* chest is separated from the white of the throat by a fairly well-marked band of blackish spots, the sides of the body and flanks are dull rusty brown, and the under tail-coverts uniform dull rust-colour. The first primary-quill is two thirds of the length of the second, which is about equal to the tenth; the fourth, fifth, and sixth are subequal and longest. Iris brown; upper mandible and the extremity of the lower blackish horn, the rest of the under mandible whitish. Total length about 6·0 inches, culmen 0·65, wing 2·1, tail 2·4, tarsus 0·8.

108. Parisoma galinieri.

Parisoma galinieri Guér. Rev. Zool. 1843, p. 162 [Abyssinia].

Parisoma frontale Rüpp. Syst. Uebers. p. 43, pl. xxii. (1845) [Shoa].

Lioptilus galinieri (Guér.); Salvad. Ann. Mus. Civ. Gen. xxi. p. 126 (1884), & xxvi. p. 236 (1888).

a. ♂. Chelunco, Abyssinia, 4 January, 1899. (No. 107.)
b. ♀. Baroma, Abyssinia, 10 January, 1899. (No. 146.)

a. Iris brown; bill and legs black.

b. Iris reddish brown; bill black; legs dark brown.

There is apparently no reason for placing this species in the genus *Lioptilus*. In structure it agrees well with *P. subcæruleum*, the type of the genus *Parisoma*; it also resembles that species in its style of plumage and coloration.

109. Parisoma lugens.

Sylvia (*Curruca*) *lugens* Rüpp. Neue Wirbelth., Vög. p. 113, pl. 44. fig. 2 (1835); Hartert, Kat. Mus. Senckenb. p. 14 (1891) [nec Sharpe, Ibis, 1891, p. 444, footnote, & 1892, p. 302].

a. ♂. Gitemma, Abyssinia, 14 March, 1899. [No. 425.]
b. ♂. Lekamte, Abyssinia, 16 March, 1899. [No. 430.]

Iris brown; bill and legs black.

Now that we have the opportunity of examining authentic examples of this rare Warbler, hitherto known only from Rüppell's type in the Frankfort Museum, it is evident that the birds collected by Mr. F. J. Jackson in British East Africa belong to a distinct species.

Since Dr. Sharpe identified the skin of a single male from Mount Elgon with *Sylvia lugens* Rüpp., Mr. Jackson has sent home a number of additional examples of both sexes. A comparison of the series now available shows that the Elgon and Nandi birds differ constantly from typical examples of *Parisoma lugens*, the top of the head being brown and uniform in colour with the back, whereas in the latter species the crown is deep brownish black, shading gradually into brown on the upper parts.

Dr. Sharpe now proposes to call the East-African bird *Parisoma jacksoni* [see Bull. B. O. C. vol. x. p. xxviii (1899)].

Sylvia blanfordi Seebohm is closely allied to this species, and should be transferred to the genus *Parisoma*, the long, well-developed, first primary-quill distinguishing it from the genus *Sylvia*.

This species is new to the British Museum Collection.

[Though plentiful locally about Gitemma and Bilo, in Upper Lika, this Warbler did not appear to have a wide range. It has a pleasant note, and altogether has a rather superficial resemblance to a "pocket edition" of the Bulbul.—L.]

110. SYLVIELLA MICRURA.

Troglodytes micrurus Rüpp. Neue Wirbelth., Vög. p. 109, pl. 41. fig. 2 (1835).

Oligura micrura Rüpp. Syst. Uebers. p. 56 (1845); Bonap. Consp. Av. i. p. 257 (1850); Heugl. Syst. Uebers. p. 21 (1856); id. Ibis, 1859, p. 340.

Oligocercus microurus Cab. J. f. O. 1853, p. 109 [part].

Oligocercus micrurus Heugl. Ibis, 1869, p. 141 [part: Bogos-land, Abyssinia, Coast of the Red Sea, southward to Tedjura]; Blanf. Geol. & Zool. Abyss. p. 376 (1870) [below Senafé and Anseba Valley].

Oligocercus rufescens Heugl. (nec Vieill.) Orn. N.O.-Afr. i. p. 236 (1869); Finsch, Trans. Zool. Soc. vii. p. 230 (1870); Finsch & Hartl. Vög. Ost-Afr. p. 227 (1870).

Sylviella leucopsis Reichen. Orn. Centralbl. 1879, p. 114 [Kibaradja]; Reich. & Schalow, J. f. O. 1879, p. 328; Fischer & Reich. J. f. O. 1879, p. 355 [Malindi].

Sylviella micrura Sharpe, Cat. B. Brit. Mus. vii. p. 154 (1883) [part, specimens *d* & *e*]; id. P. Z. S. 1895, p. 482 [Fehja, W. Somaliland]; Lort Phillips, Ibis, 1898, p. 409 [N. Somaliland]; Hawker, Ibis, 1899, p. 70.

a. ♂. Feyambiro, Abyssinia, 25 December, 1898. (No. 31.)

Iris light brown; bill dusky; legs brown.

111. SYLVIELLA BRACHYURA.

Sylvietta brachyura Lafr. Rev. Zool. 1839, p. 258 [Senegambia*]; Des Murs, in Lefebvre, Voy. en Abyss., Zool. p. 89 (1845).

Sylvietta brevicauda Des Murs, in Lefebvre, Voy. en Abyss. pl. 6 (1845).

Oligura brachyptera Bonap. Consp. Av. i. p. 257 (1850) [Sennaar*].

Oligocercus microurus Cab. J. f. O. 1853, p. 109 [part].

Oligocercus micrurus Heugl. Ibis, 1869, p. 141 [part: Sennaar, S. Nubia, Taka, White Nile, Kordofan].

Oligocercus rufescens Hartl. Abh. nat. Ver. Bremen, vii. p. 92 (1880) [Lado].

Sylviella micrura Sharpe, Cat. B. Brit. Mus. vii. p. 154 (1883) [part, specimens *a, b, c*].

a. ♂. Maritchi, Abyssinia, 22 March, 1899. (No. 442.)

Iris light brown; bill dark brown; legs brown.

In the 'Catalogue of Birds,' *Troglodytes micrurus* Rüpp. and *Sylvietta brachyura* Lafr. are united as belonging to one and the same species, but with the material now available we are in a position to point out that this is not the case. The white-eyebrowed, white-throated bird with a shorter, stouter, bill (*S. micrura* (Rüpp.)) is found in Somaliland, Eastern Abyssinia, as far north as Bogos-land, and as far south as Kibaradja and Malindi on the coast of East Africa. *S. brachyura* Lafr., which has the superciliary stripes and throat uniform rust-colour, and the bill longer and more slender, ranges from Equatorial Africa, through Kordofan, Sennaar, and S. Nubia to the Anseba valley, Bogos-land, and Western Abyssinia.

It is probably by accident that Lafresnaye gave the locality of this species as Senegambia, for Bonaparte subsequently corrected it to Sennaar. The synonymy of the two species should stand as given above.

There can be no doubt that *S. jacksoni* Sharpe, from Kavirondo, is synonymous with *S. whytii* Shelley from

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* Bonaparte gives the locality as "Sennaar"; this is no doubt correct.

Zomba, the latter name having priority; and it is, in our opinion, somewhat doubtful whether *S. pallida* Alexander (see above, p. 75) is really distinct from this species, and whether the pale colouring of the superciliary stripes, sides of the face, and underparts may not be merely due to wear. The bill is, however, black in *S. pallida* and rather stronger, while in *S. whytii* it is brownish horn-colour.

Two small birds from Manda Island [the same individuals to which Mr. Alexander has referred as typical examples of *S. leucopsis* Reich. (Bull. B. O. C. viii. p. xlviii, 1899)] prove to belong to a distinct species, which I propose to call

SYLVIELLA MINIMA, sp. n.*

Adult male and female. Easily distinguished from the allied forms *S. whytii* and *S. isabellina* by having the upper parts pale grey, tinged with olive, especially on the rump and upper tail-coverts. Total length about 3·2 inches; culmen 0·55; wing, ♂ 2·1, ♀ 2·0; tail 0·9; tarsus 0·7.

Hab. Manda Island, British East Africa (*F. J. Jackson*). [*Types of the species.*]

S. baraka Sharpe appears to be founded on immature examples of *S. virens* (Cass.).

As some of the species of the genus *Sylviella* have been much confused, I append a Key:—

Key to the Species†.

A. Crown grey like the upper parts; in *S. minima* the upper parts are slightly washed with olive.
  a. Middle of the breast and belly white, contrasting rather sharply with the rufous-cinnamon of the upper breast, sides, and flanks.
    a^1. Superciliary stripe, cheeks, and throat white; a well-marked black band from the base of the bill to the eye; culmen shorter and stouter, 0·48 inch . . *micrura.*
    b^1. Superciliary stripe, cheeks, chin, and throat cinnamon-rufous; bill longer and more slender, 0·58 inch . . . . *brachyura.*

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* See Alexander, above, p. 75, Pl. I. fig. 2.

† *Sylviella rufigenis* Reich. J. f. O. 1887, p. 125, from the Upper Congo, has not been examined and is not included in the Key.

b. Middle of the breast and belly cinnamon-rufous like the sides, or if paler, as is sometimes the case in faded examples, not contrasting with the sides and flanks.

c^1. Back and upper parts grey, without any tinge of olive.

a^2. A marked blackish band from the base of the bill passing through the eye, dividing the pale buff well-marked superciliary stripe from the cheeks and ear-coverts of the same colour: larger wing 2·4–2·5 inches, culmen 0·7 ...... *rufescens.*

b^2. No dark band from the base of the bill through the eye.

a^3. Culmen not exceeding 0·55 inch in length.

a^4. Superciliary stripe, cheeks, and ear-coverts rufous-cinnamon; bill pale brownish horn .... *whytii.*

b^4. Superciliary stripe, cheeks, and ear-coverts whitish; bill black .... *pallida.*

b^3. Culmen 0·7 inch in length; very indistinct superciliary stripe, cheeks, and ear-coverts whitish .... *isabellina.*

d^1. Back and upper parts pale grey tinged with olive, especially on the rump and upper tail-coverts; superciliary stripe, cheeks, and sides of face pale cinnamon-rufous like the rest of the underparts: culmen 0·55 inch, wing 2·0–2·1 .... *minima.*

B. Crown and sides of the head chestnut; rest of upper parts grey.... .... *ruficapilla.*

C. Crown brown or reddish brown, rest of upper parts olive-green or dull olive-green.

c. A wide white superciliary stripe; chest grey; under tail-coverts yellow .... *leucophrys.*

d. Superciliary stripe narrow, pale rufous white; chest reddish brown; under tail-coverts white.......... *virens.*

e. Superciliary stripe brownish white; breast and belly yellow; under tail-coverts white.

e^1. Sides and flanks olive-green.................... *flaviventris*

f^1. Sides pure white; flanks ashy .... *stampflii.*

112. CAMAROPTERA BREVICAUDATA.

Camaroptera brevicaudata (Cretzsch.); Sharpe, Cat. B. Brit. Mus. vii. p. 168 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 144 (1884); Lort Phillips, Ibis, 1898, p. 409 [N. Somaliland].

a. ♀. Hirna, Abyssinia, 8 January, 1899 (No. 138.)

b. ♂. Kassim river, Abyssinia, 20 January, 1899. (No. 244.)

a. Iris light hazel; bill dusky; legs light.

b. Iris hazel; bill black; legs brown.

113. ORTHOTOMUS MAJOR.

Orthotomus major Weld-Blundell & Lovat, Bull. B. O. C. vol. x. p. xx (1899).

a. ♂. Gitemma, Abyssinia, 14 March, 1899. (No. 420.) [*Type of the species.*]

Though allied to *O. erythropterus* (Jardine), this Tailor-bird may be readily recognized by its much larger size and by the colour of the bill, which is light horn-colour instead of black. It has, moreover, the forehead and top of the head vinous red, while the chest and rest of the underparts are much paler, being white, washed with very pale cinnamon, especially on the belly, thighs, and under tail-coverts. Iris light hazel; bill and legs light horn-colour. Total length about 6·4 inches, culmen 0 8, wing 2·5, tail 2·7, tarsus 0·92.

[I only once saw this bird with a companion identical in shape and size; it was feeding halfway up some very high grass close to our camp. After shooting and failing to find it during half an hour's search, I returned to camp to obtain the assistance of some of our men. The offer of a dollar had the required effect.—L.]

114. PRINIA MURINA.

Prinia mystacea Rüpp.; Sharpe, Cat. B. Brit. Mus. vii. p. 191 (1883) [part].

Prinia murina (Heugl.); Salvad. Ann. Mus. Civ. Genov. xxi. p. 145 (1884), & xxvi. p. 252 (1888).

a. ♂. Hado, Abyssinia, 24 December, 1898. (No. 27.)

b. ♂. Chelunco, Abyssinia, 4 January, 1899. (No. 110.)

c. ♂. Laga Hardim, Abyssinia, 14 January, 1899. (No. 184.)

d. ♂. Philwaha, Abyssinia, 16 February, 1899. (No. 317.)

e. ♀. Konduro, Abyssinia, 25 March, 1899. (No. 451.)

a. Iris light brown; bill and legs brown.

b. Iris light brown; bill and legs black.

c, d, e. Iris light hazel; bill dark; legs light.

[A common bird, and easily distinguished by its cocked-up tail and jerky flight.—L.]

115. CISTICOLA TERRESTRIS.

Cisticola terrestris (Smith); Sharpe, Cat. B. Brit. Mus. vii. p. 266 (1883); Hawker, Ibis, 1899, p. 71 [Somaliland].

Hemipteryx terrestris Salvad. Ann. Mus. Civ. Gen. xxvi. p. 255 (1888).

a. ♂. Jig Jegga, Abyssinia, 23 December, 1898. (No. 21.)

b. Kassim river, Abyssinia, 18 January, 1899. (No. 221.)

c. ♀. Kombolsha, Abyssinia, 15 February, 1899. (No. 314.)

d. Golba, Abyssinia, 25 February, 1899. (No. 373.)

Iris light brown; bill dark brown; legs light brown.

a. ♂. Wing 2·1 inches.

c. ♀. Wing 1·9 inch.

[This species favours the open plain, and is almost invariably to be seen running on the ground.—L.]

116. CISTICOLA CINEREOLA.

Cisticola cinereola Salvad. Ann. Mus. Civ. Gen. xxvi. p. 254 (1888) [Shoa].

? *Cisticola somalica* Sharpe, P. Z. S. 1895, p. 483 [Western Somaliland].

a. ♂. Hawash, Abyssinia, 16 January, 1899. [No. 205.]

b. ♂. „ „ 17 January, 1899. [No. 216.]

Iris light brown; bill dusky; legs light.

Two males in the collection undoubtedly belong to this species. They agree perfectly with Salvadori's description of the female type, but, as one might expect, are somewhat larger.

a. Wing 2·55 inches, tail 2·25.

b. „ 2·5 „ „ 2·15.

Salvadori's female type from Farré, Shoa, measures:—wing 2·24 inches, tail 1·92.

C. somalica Sharpe, from Mimie and Ehrer in Western Somaliland, is almost certainly identical with the present bird.

It differs only in having the buff on the underparts more pronounced; and this difference is probably seasonal, for the types of *C. somalica* were collected in July and August, while the type of *C. cinereola* was obtained in February, and the birds before us, which exactly resemble the latter, are dated 16th and 17th January.

[This Grass-Warbler is more like a Pipit in its habits than the rest of the species of *Cisticola,* spending much of its time on the ground. It was met with only on the dry Hawash plain.—L.]

117. CISTICOLA ERYTHROGENYS.

Cisticola erythrogenys (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 275 (1883). [Female.]

Cisticola robusta Rüpp.; Salvad. Ann. Mus. Civ. Gen. xxi. p. 146 (1884), & xxvi. p. 252 (1888). [Male.]

a. ♂. Derru, Abyssinia, 5 January, 1899. (No. 117.)
b. ♀. Burka, Abyssinia, 6 January, 1899. (No. 124.)
c. ♂. Gedda, Abyssinia, 1 February, 1899. (No. 283.)
d. ♂. Lekamte, Abyssinia, 16 March, 1899. (No. 429.)

a, b, c. Iris brown; bill dark brown; legs light brown.
d. Iris light hazel; bill dark; legs light.

The males of this species are, as is usual with members of this genus, very much larger than the females.

a. ♂.	Wing 3·0 inches,	tail 1·1.
b. ♀.	„ 2·5 „	„ 1·1.
c. ♂.	„ 3·0 „	„ 1·2.
d. ♂.	„ 2·9 „	„ 1·1.

Specimen *d* differs from *a* and *c* in having the lower back and rump almost uniform black.

[A very common species throughout Abyssinia. I shot one at Derru out of a flock of *Quelea æthiopica,* apparently feeding on the dhurra-stalks; but the contents of the bird's crop were unfortunately not noted.—L.]

118. CISTICOLA LUGUBRIS.

Cisticola lugubris (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 280 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 149 (1884), & xxvi. p. 253 (1888).

a. ♀. Baroma, Abyssinia, 10 January, 1899. (No. 142.)
b. ♂. Chercher, Abyssinia, 12 January, 1899. (No. 171.)
c. ♂. Kosso, Abyssinia, 8 February, 1899. (No. 303.)

Iris light hazel; bill dark; legs light.

a. ♀. Wing 2·15 inches, tail 0·89.
b. ♂. „ 2·5 „ „ 0·95.
c. ♂. „ 2·5 „ „ 0·9.

[One of the commonest species of *Cisticola* along our route, and always met with in high grass.—L.]

119. CISTICOLA LOVATI, sp. n.

Adult male. Most nearly allied to *C. hunteri* Shelley, from Kilimanjaro, having the same dark upper parts and the peculiar smoke-coloured underparts. It may, however, be at once distinguished by having a clear buff superciliary stripe, the thighs and under tail-coverts pale whitish buff, and the tips of the tail-feathers, especially the outer pairs, whitish buff. In the types of *C. hunteri* the thighs are rust-red, the under tail-coverts dark smoky grey, and the tips of the tail-feathers dark brownish grey, like the basal portion. Iris light hazel; bill dark; legs light brown. Total length 5·5 inches, culmen 0·6, wing 2·15, tail 2·25, tarsus 1·0.

a. ♂. Burka, Abyssinia, 6 January, 1899. (No. 119.) [*Type of the species.*]

120. CISTICOLA CHINIANA.

Cisticola chiniana (Smith); Sharpe, Cat. B. Brit. Mus. vii. p. 283 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 149 (1884), & xxvi. p. 253 (1888).

a. ♂? Burka, Abyssinia, 6 January, 1899. (No. 123.)
b. ♂. Jawaha, Abyssinia, 21 February, 1899. (No. 357.)

Iris light hazel; bill dark; legs light brown.

Specimen *a*, ♂? (no doubt a female), with the wing 2·25 inches, has the dark markings on the upper parts more washy and less distinct than in any of the large number of specimens examined; still I think there is little doubt that it belongs to this species. In specimen *b*, ♂, the wing measures 2·65 inches.

[The poverty of the collection in species of *Cisticola* must be put down first to the similarity of the various forms, secondly to the dearth of cartridges, and thirdly to the collector being an amateur. I am quite convinced there are many new species of these little Warblers still to be got in Abyssinia, and that a large and carefully collected series of these birds will yield most interesting results.—L.]

121. CISTICOLA SUBRUFICAPILLA.

Cisticola subruficapilla (Smith); Sharpe, Cat. B. Brit. Mus. vii. p. 283 (1883).

a. ♀. Tra, Abyssinia, 7 January, 1899. (No. 131.)
b. ♂. Bilo, Abyssinia, 10 March, 1899. (No. 391.)
a. ♀. Wing 2·1 inches.
b. ♂. Wing 2·15 inches.

Iris light hazel; bill dark; legs light.

[Very common and widely distributed.—L.]

122. GEOCICHLA SIMENSIS.

Geocichla simensis (Rüpp.); Seebohm, Cat. B. Brit. Mus. v. p. 183 (1881); Sharpe, P. Z. S. 1895, p. 484.

a. ♂. Warabili, Abyssinia, 3 January, 1899. (No. 99.)
b. ♂. Hirna, Abyssinia, 9 January, 1899. (No. 140.)
c. Gedda, Abyssinia, 1 February, 1899. (No. 284.)

a. Iris brown; upper mandible dark, lower mandible yellow; legs light.

b. Iris brown; bill dark; legs dark.

c. Iris brown; bill dark; legs dusky.

[This Thrush is very common on the open plains of the high plateaux. It is also to be found in the valleys, where it perches in the morning on the high trees, but it is no great songster.—L.]

123. TURDUS ABYSSINICUS.

Turdus abyssinicus, Gmel.; Seebohm, Cat. B. Brit. Mus. v. p. 228 (1881); Sharpe, P. Z. S. 1895, p. 485.

a. ♂. Derru, Abyssinia, 5 January, 1899. (No. 116.)

Iris brown; eyelids orange; bill orange; legs deep yellow.

[Universally distributed.—L.]

124. TURDUS PELIOS.

Turdus pelios Bp.; Seebohm, Cat. B. Brit. Mus. v. p. 230 (1881).

a. ♀. Beni Schongul, Abyssinia, 2 May, 1899. (No. 489.)

Iris light brown; bill yellow; legs light.

[Met with only in the valley of the Blue Nile.—L.]

125. MONTICOLA SAXATILIS.

Monticola saxatilis (Linn.); Seebohm, Cat. B. Brit. Mus. v. p. 314 (1881); Sharpe, P. Z. S. 1895, p. 485; Lort Phillips, Ibis, 1898, p. 410 [N. Somaliland]; Hawker, Ibis, 1899, p. 72.

a. ♀ imm. Balti, Abyssinia, 23 January, 1899. (No. 265.)

b. ♂. Damai Damash, Abyssinia, 23 February, 1899. (No. 367.)

c. ♀ ad. Mendi, Abyssinia, 3 April, 1899. (No. 472.)

Iris brown; bill and legs black.

[Common on the rocky slopes above 7000 feet.—L.]

126. MONTICOLA RUFOCINEREUS.

Monticola rufocinereus (Rüpp.); Seebohm, Cat. B. Brit. Mus. v. p. 327 (1881); Salvad. Ann. Mus. Civ. Gen. xxi. p. 160 (1884), & xxvi. p. 260 (1888); Lort Phillips, Ibis, 1898, p. 411 [N. Somaliland].

a. ♂. Philwaha, Abyssinia, 16 February, 1899. (No. 318.)

Iris brown; bill and legs black.

[A very common bird in the Didesa valley, but of shy habits.—L.]

127. CYANECULA SUECICA (Linn.).

Erithacus cyaneculus (Wolf); Seebohm, Cat. B. Brit. Mus. v. p. 311 (1881).

a. ♂. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 95.)

Iris brown; bill and legs black.

[This bird was occasionally met with in the valleys, and apparently preferred the vicinity of reeds and marshy ground.—L.]

128. RUTICILLA PHŒNICURA.

Ruticilla phœnicura (Linn.); Seebohm, Cat. B. Brit. Mus. v. p. 336 (1881).

a. ♀. Laga Hardim, Abyssinia, 15 January, 1899. (No. 199.)

b. ♂. Ganti, Abyssinia, 28 March, 1899. (No. 460.)

a. Iris, bill, and legs dark brown.

b. Iris brown; bill and legs black.

[Widely distributed.—L.]

129. MYRMECOCICHLA DUBIA.

Myrmecocichla dubia Weld-Blundell & Lovat, Bull. B. O. C. vol. x. p. xxii (1899).

a. Fontaly, Abyssinia, 17 January, 1899. (No. 213.) [*Type of the species.*]

This Mountain-Chat, which at first sight closely resembles *M. melanura* (Temm.), proves to be really a very distinct form, the colour of the under tail-coverts, which are brownish black, edged with sandy buff, being unlike that of any other member of the genus. Iris brown; bill and legs black. Total length about 6·5 inches, culmen (imperfect) about 0·7, wing 3·15, tail 2·5, tarsus 0·9.

[This bird was only once seen at nightfall at Fontaly, some ten miles from water. In a flock of perhaps from 12 to 15 individuals, it was making its way parallel to our line of march, perching, after short flights, alternately on rocks and bushes. The behaviour of the small flock was so curious, their progress so slow, and their line of march so apparently decided, that I felt convinced at the time the birds were migrating.—L.]

130. SAXICOLA LUGUBRIS.

Saxicola lugubris Rüpp.; Seebohm, Cat. B. Brit. Mus. v. p. 365 (1881); Salvad. Ann. Mus. Civ. Gen. xxi. p. 161 (1884), & xxvi. p. 261 (1888).

a. ♂. Gerru, Abyssinia, 6 February, 1899. (No. 292.)

b. ♂. Kuntaba, Abyssinia, 7 February, 1899. (No. 299.)

c. ♂. Damai Damash, Abyssinia, 23 February, 1899. (No. 368.)

Iris brown; bill and legs black.

[This Chat was met with only in the earlier part of our journey, in the rocky gorges of the high plateau. In the valley of the Didesa it was seen down to a level of 3000 feet.—L.]

131. SAXICOLA LEUCOMELA.

Saxicola leucomela (Pall.); Salvad. Ann. Mus. Civ. Gen. xxi. p. 162 (1884), & xxvi. p. 261 (1888).

Saxicola morio Hempr. & Ehr.; Seebohm, Cat. B. Brit. Mus. v. p. 373 (1881); Lort Phillips, Ibis, 1898, p. 413 [N. Somaliland]; Hawker, Ibis, 1899, p. 72.

a. ♂. Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 51.)

b. ♂. Laga Hardim, Abyssinia, 14 January, 1899. (No. 179.)

c. ♂. Kassim river, Abyssinia, 19 January, 1899. (No. 236.)

d. ♀. Jifadensa, Abyssinia, 22 January, 1899. (No. 259.)

e. ♀. Borumeda, Abyssinia, 9 February, 1899. (No. 306.)

Iris brown; bill and legs black.

Specimen *a* (30th Dec.) has the top of the head earthy brown, the white nape-feathers tipped and the black feathers of the back widely edged with the same colour, and the chin, throat, and sides of the head fringed with buff.

Specimen *b* (14th Jan.) has the feathers of the crown and nape white, tipped with earthy brown, those of the back narrowly fringed with the same colour, and hardly a trace of buff margins to the feathers of the throat.

Specimen *c* (19th Jan.) has the top of the head pure white, and the back, chin, throat, and sides of the head uniform black; the breast, too, shows but slight trace of fulvous, which is conspicuous in specimens *a* and *b*.

132. SAXICOLA ŒNANTHE.

Saxicola œnanthe (Linn.); Seebohm, Cat. B. Brit. Mus. v. p. 391 (1881); Sharpe, P. Z. S. 1895, p. 486.

a. ♂. Konduro, Abyssinia, 25 March, 1899. (No. 448.)
b. ♂. Mendi, Abyssinia, 1 April, 1899. (No. 468.)

Iris brown; bill and legs black.

[Seen at the village of Balti, at the Gibbeh (palace) at Addis Abbeba, and in the neighbourhood of one or two other villages, always in the part most inhabited. I did not get a chance of shooting one till we reached Konduro, where, on March 25th, they were collecting into parties of from four to eight preparatory to migration. Like the rest of the Chats, they were noticeably plumper and in better condition previous to migration.—L.]

133. Saxicola isabellina.

Saxicola isabellina Cretzsch.; Seebohm, Cat. B. Brit. Mus. v. p. 399 (1881); Sharpe, P. Z. S. 1895, p. 485; Lort Phillips, Ibis, 1898, p. 412 [N. Somaliland]; Hawker, Ibis, 1899, p. 72.

a. ♂. Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 47.)

b. ♂. Ketchen Waha, Abyssinia, 16 January, 1899. (No. 201.)

Iris brown; bill and legs black.

[This Chat inhabits the high plateaux and is specially attracted by open sandy soil, where it is often of a very light colour, at times almost grey.—L.]

134. Saxicola bottæ.

Saxicola bottæ Bonap.; Seebohm, Cat. B. Brit. Mus. v. p. 401 (1881).

Campicola bottæ Salvad. Ann. Mus. Civ. Gen. xxi. p. 164 (1884), & xxvi. p. 262 (1888).

♂. Balti, Abyssinia, 23 January, 1899. (No. 268.)

Iris brown; bill and legs black.

[This Chat soars and sings on the wing like a Sky-Lark. It has a curious habit, when danger approaches, of drawing itself up to its full height, its legs being unusually long for those of a *Saxicola*. It is a bird of the high plateaux, but was seen in March about the Didesa valley, possibly migrating north.—L.]

135. PENTHOLÆA MELÆNA.

Pentholæa melæna (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 19 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 154 (1884), & xxvi. p. 257 (1888).

a. ♂. Gerru, Abyssinia, 6 February, 1899. (No. 294.)

Iris brown; bill and legs black.

[This black Chat was seen only in the rocky gorges between the 4th and 6th of February, and never met with after.—L.]

136. PINAROCHROA SORDIDA.

Saxicola sordida Rüpp. Neue Wirbelth., Vög. p. 75, pl. 26. fig. 2 (1835).

Pinarochroa sordida (Rüpp.); Sharpe, Cat. B. Brit Mus. vii. p. 20 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 154 (1884), & xxvi. p. 257 (1888).

a. ♂. Balti, Abyssinia, 23 January, 1899. (No. 266.)

b. ♂. Gedda, Abyssinia, 1 February, 1899. (No. 278.)

Iris brown; bill and legs black.

[This bird was confined to the high plateaux.—L.]

137. PRATINCOLA RUBETRA.

Pratincola rubetra (Linn.); Sharpe, Cat. B. Brit. Mus. iv. p. 179 (1879).

a. ♂. Guatti, Abyssinia, 27 March, 1899. (No. 455.)

Iris brown; bill and legs black.

[Seldom met with, and only seen towards the Abyssinian-Soudanese boundary.—L.]

138. PRATINCOLA MAURA.

Pratincola maura (Pall.); Sharpe, Cat. B. Brit. Mus. iv. p. 188 (1879).

Iris brown; bill and legs black.

a, b. ♂, ♂. Lake Harrar Meyer, Abyssinia, 30 December, 1898, 2 January, 1899. (Nos. 52, 94.)

c. ♂. Tra, Abyssinia, 7 January, 1899. (No. 136.)

d. ♂. Baroma, Abyssinia, 1 January, 1899. (No. 158.)

e. ♀. Laga Hardim, Abyssinia, 14 January, 1899. (No. 190.)

f, g. ♂, ♂. Philwaha, Abyssinia, 16 February, 1899. (Nos. 319, 320.)

h. ♀. Bilo, Abyssinia, 10 March, 1899. (No. 389.)

Iris brown; bill and legs black.

[A very common bird throughout our journey. Like the rest of its kind, this Chat was in much plumper condition as March approached and the migration-time drew near.—L.]

139. Pratincola albofasciata.

Pratincola albofasciata (Rüpp.); Sharpe, Cat. B. Brit. Mus. iv. p. 198 (1879); Sharpe, P. Z. S. 1895, p. 487.

a. ♂. Warabili, Abyssinia, 3 January, 1899. (No. 98.)

b. ♂. Tra, Abyssinia, 7 January, 1899. (No. 135.)

c. ♀. Akake, Abyssinia, 23 January, 1899. (No. 274.)

d. ♂ juv. Gimbi, Abyssinia, 23 March, 1899. (No. 444.)

Iris brown; bill and legs black.

Specimen *a*, a male, shot on the 3rd of January, has the feathers of the breast widely margined with rusty red, and the feathers of the crown and lower back indistinctly edged with the same colour.

Specimen *b*, a male shot on the 7th of January, has the rusty margins of the breast-feathers nearly obsolete, and the crown and lower back are black.

Specimen *c*, which is marked "♀ certain, 23rd January," is in the plumage of a breeding male, the breast as well as the upper parts being uniform black, without a trace of the rust-coloured edgings to the feathers. Lord Lovat assures me that there can be no doubt that this bird was proved to be a female by dissection.

It may be worth remarking that an undoubted female of *Saxicola montana* shot by myself on Sokotra had the chin and throat black, narrowly fringed with isabelline, and was perfectly similar in plumage to numbers of males from the same locality. It would thus seem that among the Chats the female sometimes assumes the male plumage.

[Specimen *c* (No. 274) was certainly a female. I specially called Mr. Harwood's attention to the fact, and noted the sex in red ink in my notebook. There is, I believe, a slight difference between the females of *P. albofasciata* in Southern and Northern Abyssinia, but lack of cartridges prevented my ascertaining this for certain.—L.]

140. COSSYPHA SEMIRUFA.

Cossypha semirufa (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 42 (1883).

Bessornis semirufa Salvad. Ann. Mus. Civ. Gen. xxi. p. 152 (1884), & xxvi. p. 256 (1888).

a. ♀. Chelunco, Abyssinia, 4 January, 1899. (No. 106.)

b. ♂. Gitemma, Abyssinia, 14 March, 1899. (No. 421.)

Iris brown; bill and legs black.

The female (*a*) has the nape and the upper part of the mantle strongly washed with rust-red. The male (*b*) has the nape and upper mantle uniform in colour with the back. In the latter specimen the tail is unusually short (2·7 inches), but the dark middle pair of tail-feathers are missing.

141. THAMNOLÆA ALBOSCAPULATA.

Thamnolæa alboscapulata (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 50 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 156 (1884.)

a. ♀. Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 48.)

b. ♂. Gelongol, Abyssinia, 13 March, 1899. (No. 416.)

Iris brown; bill and legs black.

The measurements of the male are unusually large—wing 4·75 inches, tail 3·7.

The female, a much smaller bird—wing 4·3 inches, tail 3·2—has the wing-coverts uniform black.

142. THAMNOLÆA SEMIRUFA.

Thamnolæa semirufa (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 51 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 155 (1884), & xxvi. p. 257 (1888).

a, b. ♀ ♀ imm. Akake, Abyssinia, 24 January, 1899. (Nos. 276, 277.)

c. ♂. Gedda, Abyssinia, 1 February, 1899. (No. 281.)

d. ♀ imm. Wama, Abyssinia, 12 March, 1899. (No. 403.)

Iris brown; bill and legs black.

The females are all immature birds. Specimen *a* has on the left side of the breast a single chestnut feather among the darker banded plumage of the underparts, indicating, no doubt, the commencement of the perfectly adult plumage.

A young male from Abyssinia (*Verreaux*), in the British Museum Collection, with the upper parts and breast still partially in the spotted nestling-plumage, is moulting direct into the plumage of the adult male—the lower breast, belly, and under tail-coverts having already become nearly uniform rufous-chestnut, while many feathers of the upper parts, throat, and upper breast are deep black. This bird shows *no trace* of the rufous patch down the middle of the throat. It seems probable, therefore, that though the females ultimately become similar in plumage to the adult male, they do not attain the adult plumage at the first moult: an intermediate dress, in which the breast and belly are dusky rufous-buff indistinctly barred with black, being worn for at least a year.

[Never met with east of Addis Abbeba.—L.].

143. ERYTHROPYGIA LEUCOPTERA.

Erythropygia leucoptera (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 79 (1883); id. P. Z. S. 1895, p. 483; Hartert, Kat. Mus. Senckenb. p. 9 (1891); Lort Phillips, Ibis, 1898, p. 410 [N. Somaliland]; Hawker, Ibis, 1899, p. 70.

♂. Ketchen Waha, Abyssinia, 16 January, 1899. (No. 204.)

Iris hazel; bill and legs dark.

[This bird was seen only on the Hawash plain.—L.]

144. CRATEROPUS SMITHI.

Crateropus smithii Sharpe, Bull. B. O. C. iv. p. xli (1895); id. P. Z. S. 1895, p. 487 [Western Somaliland]; Hawker, Ibis, 1899, p. 73.

a. ♀. Warabili, Abyssinia, 4 January, 1899. (No. 103.)
Iris red; bill black; legs light slate-colour.

This is the fourth example of this species, which was recently described by Dr. Sharpe.

[A common species, and, like the rest of the genus, always conspicuous.—L.]

145. Crateropus leucopygius.

Crateropus leucopygius (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 476 (1883); Salvad. Ann. Mus. Civ. Gen. xxi. p. 143 (1884), & xxvi. p. 249 (1888).

a. ♂. Philwaha, Abyssinia, 16 February, 1899. (No. 323.)

Iris red; bill dark; legs light slate-colour.

[This species replaces *C. smithi* on the high plateaux of Central Abyssinia. It is wilder, but equally noisy.—L.]

146. Crateropus leucocephalus.

Crateropus leucocephalus (Cretzsch.); Sharpe, Cat. B. Brit. Mus. vii. p. 474 (1883).

a. ♂. Beni Schongul, Abyssinia, 3 May, 1899. (No. 492.)

Iris yellow; bill black; legs dark.

[This species of the "Seven Sisters" was met with only in the valley of the Blue Nile, where it was common locally.—L.]

147. Pycnonotus arsinoe.

Pycnonotus arsinoe (Hempr. & Ehr.); Sharpe, Cat. B. Brit. Mus. vi. p. 148 (1881); Lort Phillips, Ibis, 1898, p. 413 [N. Somaliland]; Hawker, Ibis, 1899, p. 73.

a. ♂. Derru, Abyssinia, 5 January, 1899. (No. 118.)

Iris brown; bill and legs black.

148. Graucalus cæsius.

Graucalus cæsius Sharpe, Cat. B. Brit. Mus. iv. p. 26 (1879).

Ceblepyris cæsia Salvad. Ann. Mus. Civ. Genov. xxi. p. 128 (1884) [Shoa].

Graucalus purus Sharpe, Ibis, 1891, p. 121 [Mt. Elgon]; id. Ibis, 1892, p. 299.

a. ♂. Chelunco, Abyssinia, 4 January, 1899. (No. 112.)

Iris brown; bill and legs black.

The type of *Graucalus purus* was collected by Mr. F. J. Jackson on Mt. Elgon, and he subsequently obtained a series, including examples of both sexes, at Mau and Nandi. The same species was recently procured by Lord Delamere in Somaliland.

After careful comparison of these birds with South-African examples of *G. cæsius,* I can find no specific difference between the two, the latter being merely a slightly larger race.

[Of a shy, skulking habit, this bird might be easily passed over but for its magnificent note. Though plentiful locally in the Warabili and Kuni forests, I do not think that its range extends very far north or east. Near Addis Abbeba, in the thickets at Mangasia, a solitary specimen of the bird was observed.—L.]

149. CAMPOPHAGA PHŒNICEA.

Campophaga phœnicea (Lath.); Sharpe, Cat. B. Brit. Mus. iv. p. 59 (1879).

a. ♂. Kombolsha, Abyssinia, 15 Februaay, 1899. (No. 313.)

b. ♂. Konduro, Abyssinia, 25 March, 1899. (No. 450.)

Iris brown; bill and legs black.

[This handsome bird was only twice met with. On each occasion a pair was seen in lightly-wooded country and in the immediate vicinity of a village. It is of tame habit and easily approached.—L.]

150. BATIS ORIENTALIS.

Batis orientalis (Heugl.); Sharpe, Cat. B. Brit. Mus. iv. p. 136 (1879).

a. ♀. Tra, Abyssinia, 7 January, 1899. (No. 133.)

b. [♂.] Hawash, Abyssinia, 17 January, 1899. (No. 215.)

Iris bright yellow; bill and legs black.

The white eyebrow-stripes bordering the crown are present in both sexes, but not very clearly defined; in the male they unite with one another on the occiput.

[This bright little bird, with its musical treble call, was to be seen throughout Abyssinia except on the sparsely-wooded high plateaux.—L.]

151. ALESONAX MURINUS.

Alseonax murinus Fischer & Reichen. J. f. O. 1884, p. 94.

a. ♂. Burka, Abyssinia, 6 January, 1899. (No. 121.)

One of the most remarkable features of this collection is the number of species from Eastern and Equatorial Africa which have now been discovered in Southern Abyssinia. The occurrence of this little Flycatcher, hitherto known only from the vicinity of Lake Victoria Nyanza, is a further instance of interesting and quite unexpected geographical distribution.

This species is new to the British Museum Collection.

152. MUSCICAPA GRISOLA.

Muscicapa grisola Linn.; Sharpe, Cat. B. Brit. Mus. iv. p. 151 (1879); id. P. Z. S. 1895, p. 490.

a. ♂. Mendi, Abyssinia, 25 April, 1899. (No. 487.)

Iris brown; bill and legs black.

153. HYLIOTA FLAVIGASTRA.

Hyliota flavigastra Swains.; Sharpe, Cat. B. Brit. Mus. iv. p. 248 (1879),

a. ♂. Mendi, Abyssinia, 8 April, 1899. (No. 478.)

Iris brown; bill black; legs dark slate-colour.

The occurrence of this bird at Mendi, in the valley of the Blue Nile, carries the range of the species much further north-east than was previously known.

154. LIOPTILUS ABYSSINICUS.

Drymophila abyssinica Rüpp. Neue Wirbelth., Vög. p. 108, pl. 40. fig. 2 (1835).

Lioptilus abyssinicus Salvad. Ann. Mus. Civ. Gen. xxi. p. 128 (1884), & xxvi. p. 238 (1888).

Bradyornis abyssinica Hartert, Kat. Mus. Senckenb. p. 97 (1891).

Alcippe kilimensis Shelley, P. Z. S. 1889, p. 364.

a. ♂ imm. Burka, Abyssinia, 6 January, 1899. (No. 122.)

Iris light brown; bill dark horn; legs grey.

An immature male in the present collection is obviously identical with *Alcippe kilimensis* Shelley, and there can be no doubt that the latter term is synonymous with *Drymophila* *abyssinica* Rüpp. The Indian genus *Alcippe* is thus excluded from the African avifauna, the species in question being a true *Lioptilus*, as Salvadori has already shown.

The specimen before us has the grey crown of the head mixed with a few olive-brown feathers like those of the back, apparently a sign of immaturity.

Total length about 6·0 inches, culmen 0·62, wing 2·95, tail 2·6, tarsus 1·0.

[This bird is very common all through the wooded valleys of Southern Abyssinia.—L.]

155. CHLOROPETA MASSAICA.

Chloropeta massaica Fischer & Reichenow, J. f. O. 1884, p. 54 (base of Kilimanjaro].

a. ♂. Konduro, Abyssinia, 25 March, 1899. (No. 447.)

Iris brown; upper mandible black, lower light horn-colour; legs black.

The type of this species was obtained at the base of Kilimanjaro. We have compared the Abyssinian bird with a typical example of *C. massaica* in the Jackson Collection, and find that they agree perfectly. As the diagnosis of this very rare Flycatcher given by Fischer and Reichenow is extremely brief, we add the following description:—

Adult male. Very similar to *C. natalensis*, but at once distinguished by having the crown of the head uniform brownish black. The third quill in both wings is unfortunately imperfect, the extremity being shot off, but the fourth, fifth, and sixth quills are subequal and longest, while the seventh is very slightly shorter. Total length about 5·5 inches, culmen 0·6, wing 2·4, tail 2·3, tarsus 0·85.

This species is new to the British Museum Collection.

[Only once seen in thick bush.—L.]

156. TERPSIPHONE CRISTATA.

Terpsiphone cristata (Gm.); Sharpe, Cat. B. Brit. Mus. iv. p. 354 (1879); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 234 (1888); Sharpe, P. Z. S. 1895, p. 490; Lort Phillips, Ibis, 1898, p. 414 [N. Somaliland].

a. ♂. Laga Hardim, Abyssinia, 14 January, 1899. (No. 189.)

b. ♂. Telagubaie, Abyssinia, 17 February, 1899. (No. 328.)

c. ♂. Arriro, 18 February, 1899. (No. 341.)

Iris brown ; eyelid blue; bill and legs slate.

a. A partially adult male in the brown plumage, with the wing-coverts and edges of the inner quills white.

b. A more advanced male, with the long middle pair of tail-feathers developed.

c. A young bird still in the brown plumage.

157. CHELIDON URBICA.

Chelidon urbica (Linn.); Sharpe, Cat. B. Brit. Mus. x. p. 87 (1885).

a. ♂. Gelongol, Abyssinia, 13 March, 1899. (No. 408.)

Iris brown ; bill black.

[Common.—L.]

158. COTILE RUFIGULA.

Cotile rufigula Sharpe, Cat. B. Brit. Mus. x. p. 107 (1885) ; Salvad. Ann. Mus. Civ. Gen. xxi. p. 122 (1884), & xxvi. p. 233 (1888).

a. Waha Zinzero, Abyssinia, 5 February, 1899. (No. 291.)

Iris brown ; bill and legs dark.

[Very common and widely distributed.—L.]

159. HIRUNDO RUSTICA.

Hirundo rustica Linn. ; Sharpe, Cat. B. Brit. Mus. x. p. 128 (1885) ; Salvad. Ann. Mus. Civ. Gen. xxvi. p. 230 (1888).

a. ♀. Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 49.)

b. ♀. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 69.)

c. ♂. Lekamte, Abyssinia, 16 March, 1899. (No. 433.)

Iris brown ; bill and legs black.

[The effect of the bright sun no doubt makes these birds look darker in plumage than they appear in England. In December the young Swallows still carried the tail-feathers of the first plumage. The male bird shot at Lekamte, no doubt just previous to migration, was noticeably plumper and in better condition than those killed previously.—L.]

160. HIRUNDO ÆTHIOPICA.

Hirundo æthiopica Blanf.; Sharpe, Cat. B. Brit. Mus. x. p. 147 (1885); id. P. Z. S. 1895, p. 491; Salvad. Ann. Mus. Civ. Gen. xxvi. p. 230 (1888).

a. ♀. Gitemma, Abyssinia, 14 March, 1899. (No. 422.)

Iris brown; bill and legs black.

[This bird was only observed in the Djimma valley and near Bilo, in the Lika province. Its flight is so marked that I think it could not have failed to attract our attention had it been encountered elsewhere.—L.]

161. HIRUNDO SMITHI.

Hirundo smithii Leach; Sharpe, Cat. B. Brit. Mus. x. p. 150 (1885); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 231 (1888).

a. ♂. Bilo, Abyssinia, 11 March, 1899. (No. 399.)

Iris brown; bill and legs black.

The male has the filamentous outer tail-feathers 4·0 inches long. As already remarked by Dr. Sharpe in the 'Monograph of the *Hirundinidæ*,' the typical examples of *H. smithi* have the filaments of the outer tail-feathers much shorter than in Indian examples, fine specimens of which measure about 7·0 inches in length.

[This Swallow might easily be passed over, but it was not observed by our party until reaching the tributaries of the Nile.—L.]

162. HIRUNDO GRISEOPYGA.

Hirundo griseopyga Sundev.; Sharpe, Cat. B. Brit. Mus. x. p. 152 (1885).

a. ♂. Guatti, Abyssinia, 27 March, 1899. (No. 454.)

b. imm. Mendi, Abyssinia, 1 April, 1899. (No. 469.)

a. Iris brown; bill black; legs dark.

b. Iris brown; bill dark; legs light.

The young bird, with the flight-feathers partially developed, closely resembles the adult in plumage, but there is a slight rufous tinge on the sides of the chin and throat.

[This species was met with throughout Abyssinia as far west as the Dabous valley, where a great many young birds just fledged might be seen on the wing with their parents early in April.—L.]

163. Hirundo puella.

Hirundo puella Temm. & Schl.; Sharpe, Cat. B. Brit. Mus. x. p. 154 (1885); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 232 (1888).

a. ♂. Harrar, Abyssinia, 27 December, 1898. (No. 43.)
b. Gitemma, Abyssinia, 14 March, 1899. (No. 423.)

Iris brown; bill and legs black.

[Not a common Swallow; only met with near Harrar and on the Blue Nile.—L.]

164. Hirundo melanocrissa.

Hirundo melanocrissa (Rüpp.); Sharpe, Cat. B. Brit. Mus. x. p. 165 (1885); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 231 (1888).

a. ♂. Harrar, Abyssinia, 29 December, 1898. (No. 45.)
b. ♂. Guatti, „ 27 March, 1899. (No. 453.)
c. ♂. Mendi, „ 11 April, 1899. (No. 480.)

a. Iris brown; bill and legs black.
b, c. Iris brown; bill black; legs dark.

[A widely-distributed species.—L.]

165. Hirundo senegalensis.

Hirundo senegalensis Linn.; Sharpe, Cat. B. Brit. Mus. x. p. 168 (1885); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 231 (1888).

a. ♂. Arriro, Abyssinia, 18 February, 1899. (No. 339.)

Iris brown; bill and legs black.

[This Swallow was killed while perched on a tree; it is a strong flier, and usually soars higher than any of its allies. It was seen at intervals in the valleys of both Eastern and Northern Abyssinia.—L.]

166. Psalidoprocne antinorii.

Psalidoprocne antinorii Salvad.; Sharpe, Cat. B. Brit. Mus. x. p. 205 (1885); Salvad. Ann. Mus. Civ. Gen. xxvi. p. 234 (1888).

There is a carbolized example of this species in the collection; the exact locality where it was obtained is not stated, but it was probably Shoa.

a. ? Shoa, Abyssinia.

167. PSALIDOPROCNE BLANFORDI.

Psalidoprocne blanfordi Weld-Blundell & Lovat, Bull. B. O. C. vol. x. p. xx. (1899).

a. ♂. Bilo, Abyssinia, 11 March, 1899. (No. 409.) [*Type of the species.*]

This species is most nearly allied to *P. pristoptera* (Rüpp.), but has the whole plumage of the upper parts black, glossed with *dark green.* The underparts are darker than the back, and have less green gloss. Iris brown; bill and legs black.. Total length about 6 inches, exposed part of culmen 0·2, wing 4·3, tail 3·1, tarsus 0·45.

[This rough-winged Swallow is common from the valleys west of Addis Abbeba to the Blue Nile. It flies close to the bushes, and swerves at lightning speed through the narrow openings of the scrub.—L.]

[To be continued.]

X.—*Bulletin of the British Ornithologists' Club.*

Nos. LXV. & LXVI.

No. LXV. (October 31st, 1899).

THE sixty-fourth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 18th of October, 1899. *Chairman*: P. CROWLEY. Thirty Members and one guest were present.

The Hon. WALTER ROTHSCHILD sent for exhibition a pair of *Eclectus westermanni* Bp., and made the following remarks:—

"Dr. A. B. Meyer and Dr. Bowdler Sharpe have both expressed their opinion that *E. westermanni* is an aberration of *E. riedeli* Meyer, produced by being kept in captivity;

and consequently this idea has been generally adopted as a fact, in spite of the contrary opinion held by Count Salvadori in the 'Catalogue of Birds.'

"A few weeks ago a consignment of ten *Eclectus westermanni* arrived in London alive, of which six were males and four females, the latter sex being previously unknown. The discovery of the female disposes at once of the fiction that this excellent species could be an aberration of *E. riedeli*, for it has a blue collar and therefore belongs to the *E. roratus* section.

"The male differs from all the other species in being entirely green on the breast, while the others (including *E. riedeli*) have a large patch of red on the sides of breast. (Specimens of *E. roratus*, *E. pectoralis*, *E. cardinalis*, and *E. cornelia* were exhibited.)

"The female of *E. westermanni* is similar to the female of *E. pectoralis*, but differs in having a blue collar and dull purple lower breast, while *E. pectoralis* has both collar and breast of the same bright blue colour. The under tail-coverts are also of a much darker and duller red. The ring of blue round the eyes of *E. pectoralis* is also absent in *E. westermanni*. Both sexes are likewise much smaller than *E. pectoralis*."

Of the ten specimens mentioned above, Mr. Rothschild had three males and one female alive. The other six had died, and a stuffed male and female were exhibited. Mr. Rothschild hoped to secure one more female, which had been mounted, but the remaining two males and one female had been destroyed.

The habitat of the species was still unknown.

The Hon. Walter Rothschild also exhibited specimens of all the species of *Pitta* belonging to the red-bellied section "*g*" of that genus in the 'Catalogue of Birds,' excepting *P. cæruleitorques*, which he did not possess. He observed:—

"Of all these forms, *Pitta rubrinucha* by its red nape, *P. kochi* by its large size, and *P. dohertyi* by its broad black pectoral collar and black ring round the neck, are the most distinct.

"The best known and the most widely distributed is probably *P. mackloti,* which inhabits nearly the whole of New Guinea, Waigiu, Salwatti, Mysol, and—according to Salvadori, Sclater, and others—also the Aru Islands, Cape York, New Britain, and the Key Islands. From the last locality Count Salvadori had no adult specimens when he wrote his great work; but I have now a fine series, and find that the species is not *P. mackloti,* but as different as many of the other forms of this group. In PITTA KUEHNI—as I propose to name the form inhabiting the Key Islands and Koer—the blue of the chest extends over the sides of the chest and breast (where there is a green patch in *P. mackloti*) and is continued in a narrow blue ring round the upper back. The feathers on the sides of the chest appear to be somewhat more elongated than in *P. mackloti.* Adult birds have some blue on the crown—a character which is rather rare in *P. mackloti.*

"*Pitta finschi,* described by Ramsay from the Astrolabe Range, is the *Pitta* of the D'Entrecasteaux Islands; and Elliot is quite wrong in placing *P. finschi* as a synonym of *P. cyanonota* from Ternate. The latter has the head reddish brown and the throat pale brown, while *P. finschi* is rightly described by Ramsay as having the head dark reddish chocolate-brown and the throat black, and the measurements are much larger. The locality 'Astrolabe Range' is probably wrong.

"*P. loriæ,* Salvad., is another form which has hitherto been very little known. It differs from *P. mackloti* in its uniform dark-brown head, nape, and hind-neck. It occurs near Milne Bay, S.E. New Guinea, where it seems to replace the common *P. mackloti.* The green-backed females of his *P. finschi* mentioned by Ramsay, and considered by Finsch to belong to *P. mackloti,* were most likely specimens of *P. loriæ.*

"*Pitta novæ-hiberniæ* from New Hanover and New Ireland has been wrongly confused with *P. mackloti.*

"*P. palliceps* is certainly very closely allied to *P. celebensis*, and the distinctness of *P. propinqua* from *P. erythrogastra* is very doubtful."

Mr. Rothschild also sent for exhibition a specimen of an Oyster-catcher, which he proposed to call :—

"Hæmatopus reischeki, sp. n.

"♂ *ad.* Differs from *H. longirostris* Vieill. and *H. finschi* Martens, at first sight, in having the lower back and rump black and not white, and the upper tail-coverts being mixed black and white, not white. The bill is much longer than in a series of twenty-three specimens of *H. longirostris* in the Tring Museum, and appears stouter than in New Zealand specimens.

"Culmen 102 mm., wing 270, tarsus 60.

"*H. longirostris*, ♂ *ad.* Culmen 75–85 mm., wing 245–255, tarsus 55.

"The type was shot in June 1885 at Kaiparu, New Zealand, by A. Reischek.

"*H. finschi* of Martens (Orn. Monatsb. 1897, p. 190) appears from the description to agree with two birds collected by Baron von Hügel at Freshwater Creek, Canterbury, New Zealand, and another from Kaipoi, Canterbury. These birds, however, vary among themselves in the amount of white on the quills, which is the distinction given by Herr Martens; and this variation in the amount of white leads me to consider that his *H. finschi* and the three birds from Baron von Hügel are only aberrations of *H. longirostris*."

Mr. Ernst Hartert recorded the occurrence of a specimen of *Grallina picata* on the little island of Koer in the Key group.

Mr. Hartert also exhibited the types of three new birds collected near Gambaga, Gold Coast Colony, which he named and characterized as follows :—

Cossypha giffardi, sp. n.

Similar to *C. albicapilla* from Senegambia, but differing in having much narrower white tips to the feathers of the crown and occiput, so that these parts do not appear white, but black with white crescentic bars. Wings and tail longer than in *C. albicapilla.* Wing 135–137 mm., tail 145–148. Sexes alike. This form is probably a representative of *C. albicapilla.*

Heliocorys modesta giffardi, sp. n.

Closely allied to *H. modesta*, of which it is evidently only a sub-species, but differs in being altogether paler and more sandy in coloration; the breast is less heavily spotted with black, the underside paler, the wing 2 or 3 mm. shorter.

Bessonornis (? Cossypha) gambagæ, sp. n.

Very similar to *Bessonornis modesta*, Shelley, from Nyasaland, but differing in its rusty rufous flanks and under tail-coverts. The lateral rectrices have not a complete bar across the tips, but only an elongate blackish mark on the outer webs and a small blackish spot on the inner web of the outermost rectrix. The wing-quills and larger wing-coverts have pale rusty-brown edges, and the upper surface is paler. Wing and tail 3 or 4 mm. shorter.

Mr. C. B. Horsbrugh exhibited a series of photographs of nests and eggs taken on the Smölen Islands and in the Sundal Valley in Northern Norway. An interesting series of the nests of *Fringilla montifringilla* and *F. cœlebs* from the latter locality was also shown.

Mr. Scherren exhibited photographs of a young Cuckoo taken at two separate stages of its work of ejecting a young Titlark from a nest. Though the fact of such ejection has been well established, the photographs were of considerable interest as supplying incontrovertible evidence on the subject. The nest was found and watched by Mr. John Craig, a Scottish amateur naturalist, and the photographs were kindly sent by Mr. Peat Millar, of Beith, N.B., for exhibition.

Dr. Bowdler Sharpe read a letter from Dr. J. von Madarász and exhibited a specimen of the Pale Swift, *Apus* *murinus* (Brehm), shot near Fiume. The specimen was decidedly small, as were all those procured by Dr. von Madarász, but Dr. Sharpe stated that similar small individuals were to be noted from Spain and within other portions of the bird's range.

Dr. BOWDLER SHARPE exhibited some interesting specimens of birds obtained by Colonel Henry P. Northcott at Gambaga and in the Colony of the Gold Coast. The following is a list of the species met with by Colonel Northcott, to which are added references to the pages of Prof. Reichenow's well-known paper on the adjoining country of Togoland ("Zur Vogelfauna von Togo," J. f. O. 1897, pp. 1–57) :—

From Gambaga:

1. *Turtur semitorquatus* (p. 6); 2. *Francolinus albigularis*; 3. *Ptilopachys fuscus* (p. 9); 4. *Pœocephalus versteri* (p. 13); 5. *Musophaga violacea* (p. 13); 6. *Schizorhis africanus* (p. 14); 7. *Centropus senegalensis* (p. 14); 8. *Pogonorhynchus dubius* (p. 17); 9. *Campothera punctata* (p. 18); 10. *Mesopicus goertan* (p. 18); 11. *Halcyon chelicuti* (p. 21); 12. *Halcyon forbesi* (p. 21); 13. *Macrodipteryx macrodipterus* (p. 24); 14. *Irrisor senegalensis* (p. 24); 15. *Melænornis edoloides*; 16. *Elminia longicauda* (p. 27); 17. *Terpsiphone cristata* (*T. viridis*, p. 27); 18. *Prionops plumatus* (p. 30); 19. *Dryoscopus gambensis* (p. 31); 20. *Laniarius poliocephalus* (p. 32); 21. *Telephonus senegalus* (p. 32); 22. *Lanius gubernator*; 23. *Corvinella corvina* (p. 34); 24. *Buchanga assimilis*; 25. *Oriolus auratus* (p. 35); 26. *Lamprocolius purpureus* (p. 35); 27. *Pholidauges leucogaster* (p. 36); 28. *Sitagra brachyptera* (p. 36); 29. *Hyphantornis cucullatus* (p. 37); 30. *Pytelia hypogrammica*; 31. *Estrilda phœnicotis* (*E. bengala*, p. 39); 32. *Pyromelana flammiceps* (p. 40); 33. *Petronia dentata*; 34. *Serinus icterus* (*S. butyraceus*, p. 41); 35. *Pycnonotus barbatus* (p. 43); 36. *Cinnyris senegalensis* (p. 46); 37. *Parus leucopterus* (p. 47); 38. *Crateropus reinwardti* (p. 48, Taf. ii. fig. 2).

At Walembele, Colonel Northcott had obtained examples of *Palæornis docilis* and *Melittophagus pusillus*.

One of the most remarkable birds obtained was *Lanius gubernator* Hartl., J. f. O. 1882, p. 323, Taf. i. fig. 2, which was previously known only from Equatorial Africa.

Mr. J. L. Bonhote exhibited a series of adult skins of the Red-throated Diver (*Colymbus septentrionalis*) showing the various stages of the moult, and pointed out that the species had a distinct autumn dress before the moult, which was assumed by a regular abrasion during the latter end of the breeding-season. From the immature specimens Mr. Bonhote assumed that they evidently moulted straight into their adult dress, probably during their second winter.

Mr. Bonhote also exhibited two specimens in moult of the Great Northern Diver (*Colymbus glacialis*), showing that in this species the new feathers which grow at the autumn moult were at first greyish, and assumed immediately, by change of colour, the characteristic dark background with white spots.

No. LXVI. (November 30th, 1899).

The sixty-fifth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 22nd of November, 1899. *Chairman*: P. L. Sclater, F.R.S. Twenty-nine Members and three guests were present.

Dr. Bowdler Sharpe handed round to the Meeting facsimiles of two letters in Gilbert White's handwriting, one addressed to Thomas Pennant and the other to the Hon. Daines Barrington.

The Chairman then gave his Annual Address to the Club:—

Brother Members of the B. O. C.,—I thank you for the honour you have done me by electing me Chairman for the Eighth Session of this Club, and wish to express my regret at not having been able to attend the first Meeting. I will, however, take the opportunity now afforded me by being occupant of the Chair for the first time this session to offer you a few remarks on the progress made during the past twelve months. I will speak first of some of the chief ornithological works that have been issued since our last Meeting, then of those that are being planned or are in course of publication, and lastly of some of the expeditions to foreign countries that have attained or are likely to attain good ornithological results.

First, as regards publications, I consider that one of the most important of those that have appeared during the past year is Dr. Bowdler Sharpe's 'Hand-list of Birds,' the plan of which was announced to you some time since (see Bull. vol. viii. p. xxiv), and the first volume of which has lately been issued. When finished, there can be no doubt that the new 'Hand-list' will be of the greatest convenience to working ornithologists. Besides giving an index to the twenty-seven volumes of the great 'Catalogue of Birds,' it will contain references to all the additional species described during the progress of that work, and so form a complete guide-book to all species of birds described up to the time of its issue. It will, in fact, do for Birds what Dr. Trouessart, in his lately-issued 'Catalogus Mammalium,' has attempted to do for the Mammals. All that we could have wished, in fact, is that we should not have to wait two more years for its completion; but this delay is, of course, unavoidable.

Another recent event of much ornithological importance is the issue of the final number of the second edition of Mr. Saunders's 'Manual of British Birds.' There can be no greater proof of the increased attention now paid to the study of birds in this country than the great popularity of this excellent 'Manual,' and, I may add, of several other recent works on British ornithology.

A third work, issued this year, which I must not fail to mention, is Mr. Evans's volume upon "Birds" in the series of the 'Cambridge Natural History.' As has been already observed, Mr. Evans's work contains a "concentrated essence of information" on birds which will be most useful as a book of reference to all students of our favourite science.

I should also like to congratulate Messrs. Wilson and Evans on the completion of their 'Aves Hawaiienses,' to which we have long been looking forward. The strange avifauna of this isolated group of islands was specially worthy of a monograph.

Of equal importance in geographical ornithology are the two admirable quarto volumes, published by Dr. A. B. Meyer and Mr. L. A. Wiglesworth, on the 'Birds of Celebes,' which have reached us since the commencement of our last Session. As doubtful territory between the Oriental and Australian Regions, Celebes is a locality of special importance in the study of zoo-geography, and well worthy of the elaborate care and attention that these authors have devoted to it.

I may also venture to allude to the recent completion of Mr. Oates's handy little volumes on the 'Game-Birds of India,' by the issue of the second part, and to the good progress made by our Editor with Seebohm's 'Monograph of the Thrushes,' the seventh part of which has lately appeared.

Now, turning to the forthcoming works actually in progress, I may mention that our brother member, Dr. A. C. Stark, has nearly passed through the press the first of four volumes on the 'Birds of South Africa,' which will form a part of Mr. W. L. Sclater's series on the fauna of that portion of the Ethiopian Region. Both Mr. Layard's original volume and Dr. Sharpe's new edition of it are, I believe, long since out of print, and it is highly desirable that a new and revised account of the birds of that country, which is now, and is likely to remain, of such interest to us, should be published. I believe I may truly say that Dr. Stark is well qualified, from long personal experience with the avifauna in question, to prepare such a work.

Mr. Rothschild's illustrated monograph on the Cassowaries is now also in an advanced stage, and will shortly be published in the Zoological Society's 'Transactions.' It will be of great importance as comprising all the available information respecting this little-known and most interesting group of birds, to which the author has devoted particular care and attention. I am also pleased to be able to say that the Trustees of the British Museum have authorized Mr. E. W. Oates to proceed with the printing of his Catalogue of their unrivalled collection of Birds'-eggs, and that the first volume of it will shortly be ready.

As regards the expeditions to foreign countries which have led, or are likely to lead, to good ornithological results, I wish to call special attention to Mr. Boyd Alexander's journey up the Zambesi, which has led to most interesting additions to our knowledge of the avifauna of the district traversed by him. The first portion of Mr. Alexander's account of his collection has already appeared in 'The Ibis,' and the second and final portions will be given in the succeeding numbers of our Journal. Of hardly less importance are the recent contributions of Messrs. Rickett, Styan, and La Touche to the avifauna of the Chinese province of Fohkien, which are now in process of publication in the same periodical. They show how much there is still to be done in the little-known hill-regions of China, when the latter can be safely penetrated by European naturalists.

The expedition made by Mr. W. R. Ogilvie Grant and Dr. H. O. Forbes to Socotra and the previously unvisited island of Abd-el-Kuri has resulted in a large increase in our knowledge of the zoology and botany of these localities, where seven new species of birds were discovered. A ful account of the collections made, with many coloured plates of the new species, will be shortly issued by the Committee of the Liverpool Museum.

Another imperfectly-known district, which has lately been very successfully traversed, is the interior of the British Protectorate of Aden, into which Messrs. A. Blayney Percival and W. Dodson have lately made an expedition. This has unfortunately cost the life of Mr. Dodson (a most promising collector, and the younger brother of Mr. E. Dodson, the naturalist who accompanied Dr. Donaldson Smith on his expedition to Lake Rudolf), who, I regret to say, died at Aden on the 20th of October last, after the return of the expedition. The collection of birds, which is in the hands of Mr. Ogilvie Grant, has only just arrived and has not yet been fully examined. There are few new species represented in it, but there are certainly many of considerable interest. Mr. J. S. Budgett has lately returned from a successful visit to our colony on the River Gambia. He also has made a collection of birds, which have not yet been examined, but will certainly prove to be of considerable value. Nor must be omitted mention of the second expedition to Lake Tanganyika, now being conducted by Mr. J. E. S. Moore. Mr. Moore will devote himself principally, of course, to the aquatic products of the Lake, but two of his companions, Mr. Berridge and Mr. Mathews, are ardent ornithologists, and will pay special attention to our branch of natural history. Except from some of the German explorers, we have, as yet, but little information concerning the bird-life of the Tanganyika district, especially of the country northward of it, which Mr. Moore's expedition is planned to pass through on its return journey. Mr. F. J. Jackson, C.B., may have little time for ornithology, owing to his official duties in Uganda; but that he is still able to devote a little leisure to his favourite study is shown by the excellent series of papers now appearing in 'The Ibis.'

This Meeting will presently have before it the descriptions, by Mr. H. Weld-Blundell and Lord Lovat, of several new species of birds discovered during their late adventurous journey through Southern Abyssinia to Khartum. The travellers landed at Berbera in December 1898, traversed Shoa, Southern Abyssinia, and the North Galla country, struck the Blue Nile, which they followed as far as Roseires, whence they proceeded by steamer to Khartum, and thence by train to Cairo, which was reached in May 1899. Their bird-collection contains 520 specimens representing 299 species, of which 11 are new; examples of many of the species described by Rüppell, and known only by the types in the Frankfort Museum, are also among the number. A special point of interest in this collection is the number of birds previously known only from Eastern and Equatorial

Africa which have now been found in Southern Abyssinia. This extremely interesting collection is being worked out by Mr. Ogilvie Grant, and a paper on it will appear in the January 'Ibis.'

Turning now to Asia, I have to record that Major Wingate, starting from Shanghai, followed the Yang-tze-kiang as far as Lake Tung-ting, whence he took a south-westerly course along the Yuen-kiang through Hoo-nan, Kwei-chow, and Yun-nan to Bhamo. A Chinese taxidermist accompanied him through this remarkable journey, and a fine collection of birds has been forwarded to the British Museum, where it is at present under examination. I may add that a melancholy interest attaches to the beautiful series of birds from the island of Hainan which now lies on the table—the last, and one may almost say the dying, contribution to ornithological knowledge made by that sterling English naturalist, the late John Whitehead, whose loss is sincerely mourned by myself and by all his brother ornithologists throughout the world.

On the whole, therefore, I think that there is no reason why we should be at all dissatisfied with the present progress of ornithological work in the Eastern Hemisphere. As regards the New World, we may now expect renewed exertions on the part of our fellow-workers on the other side of the Atlantic. They have, I think I may say, fairly exploited the northern portion of their continent, and have for some time been extending their energies over Mexico and Central America. In the Antilles they have long been at work, and some fine series of birds from the Neotropical Region have been acquired by American naturalists. Let us wish them every sort of success in their efforts, as in these days it is more than ever important that the great Anglo-Saxon community should unite together in every branch of work. But at the same time let us here neglect no opportunity of extending our own knowledge of birds in the New as well as in the Old World. Even as I write I hear of some important collections lately arrived in this country, which show a renewed interest in Neotropical ornithology.

Dr. Sharpe exhibited, on behalf of Mr. R. J. Ussher, a specimen of the larger form of the Snow-Goose, *Chen nivalis* (Forst.), which had been shot near Belmullet in co. Mayo. It belonged to the collection of the well-known Irish naturalist, Mr. H. Blake Knox.

Mr. Howard Saunders exhibited a specimen of a Sociable Plover (*Chætusia gregaria*), which had been sent to him for inspection by Mr. E. Williams, of Dublin. The bird in question had been shot near Navan in co. Meath on the 1st of August, 1899, and constituted the second occurrence of the species within the area of the British Islands.

Mr. Ernst Hartert exhibited a new species of Humming-bird. which he described as follows:—

Agyrtria tenebrosa, sp. n.

Upper surface green; hind-neck and upper back with a steel-blue gloss; crown of head violet-blue, greenish on the forehead; longer upper tail-coverts greenish bronze. Rectrices deep steel-blue, almost black, the middle pair with a faint bronzy gloss. Under surface of body glittering green, the feathers of the chin and throat white before the metallic-green tips, those of the abdomen blackish before the green tips. Under tail-coverts dark bronzy-green. Feathers on the tibia and metatarsus as well as tufts of fluffly feathers on the sides of the belly dusky with whitish tips. Bill black, the lower mandible flesh-colour (in skin), with the apical third black. Wing 57–58, tail 38, central rectrices 31, bill 21 mm.

Two specimens found in Bogotá collections: the type in Mr. Rothschild's Museum; another in Mr. Dunstall's collection.

Obs. In general coloration this species is very much like *Saucerottia cyanifrons* (Bourc.), but its elongated and slightly-curved bill, somewhat longer and narrower rectrices, and other characters seem to place it in the genus *Agyrtria* as at present accepted.

The Hon. Walter Rothschild sent for exhibition specimens of a new form of Lory, which he described as follows:—

"Eos variegata obiensis, subsp. nov.

"Adult examples of this species from Obi Major differ from adult specimens from Batjan, Halmahera, and Ternate in the absence of the purple occiput and purple collar round the neck, and in having all the greater wing-coverts and scapulars black. Other, probably younger, individuals from Obi Major exhibit a wide collar and a purple patch on the occiput, the latter, however, not being connected with the collar in any of my specimens. These individuals can only be distinguished from typical *E. variegata* by the greater extent of the black colour on the wings. I have eight examples from Obi, collected by Doherty, Lucas, and Guillemard, and a good series from Ternate and Batjan.

With regard to the specific name of this Lory, I think there can be no doubt that *Psittacus variegatus*, Gm., ex Latham ("Variegated Lory"), must be accepted. The tail and scapulars are, as in *Eos bornea* (=*E. rubra*, auct.) sometimes distinctly greenish, at least in specimens kept in captivity; therefore Latham's description must be regarded as sufficiently exact to refer to this bird."

Mr. Rothschild further sent for exhibition an interesting series of *Scolopax saturata* from New Guinea and a specimen of *Neoscolopax rochusseni* from Obi Major. Of the latter species only two examples were hitherto on record, one in the British Museum and the type in Leyden.

Mr. W. B. Tegetmeier exhibited some very interesting specimens of Pheasants. One was a Kalij Pheasant said to have been shot in Hertfordshire, and belonging to Mr. Cecil Braithwaite. The second was a very dark-coloured hen bird, supposed to be a hybrid between a Black Grouse (*Tetrao tetrix*) and a female *Phasianus colchicus*. Mr. Tegetmeier regarded it as a dark variety of an ordinary hen Pheasant.

Mr. Boyd Alexander described a new species of *Chlorodyta* from the Zambesi river as follows:—

Chlorodyta neglecta, sp. n.

Similis *C. flavidæ* ex terrâ Damarensi, sed uropygio et interscapulio concoloribus, genis, gutture toto, et subalaribus albis, minimè flavis, subcaudalibus albis, nec flavis, et tibiis grisescenti-albis, distinguenda.

Hab. S.E. Africa to Mozambique.

Mr. J. I. S. Whitaker sent the description of a new species of Chat in the British Museum Collection. The bird had been wrongly identified as *S. mœsta* Licht. He therefore proposed to call it

Saxicola cummingi, sp. n.

Adult. Closely allied to *S. xanthoprymna* H. & E., but distinguished by having the basal part of the tail-feathers rusty red like the upper tail-coverts, instead of white. From *S. mœsta* to be at once distinguished by having the top of the head and nape brownish grey like the back, the rump and upper tail-coverts rusty and the rufous on the outer tail-feathers extending to within 0·7 inch of the extremity. Total length 6·5 inches, culmen 0·78, wing 3·7, tail 2·45, tarsus 0·95.

Hab. Fao, Persian Gulf (*W. D. Cumming*).

Mr. W. R. Ogilvie Grant exhibited some of the more interesting birds obtained by Major Wingate during his recent expedition from the Yang-tze-kiang through Southern China to Bhamo. One of the most striking of these was a fine adult pair of *Merganser squamatus* (Gould), previously known only from an immature male described in 1864.

Mr. Grant also exhibited and made remarks on some of the more remarkable new birds obtained by the late Mr. John Whitehead on the Five-finger Mountains in the interior of Hainan. Most of these, such as the splendid Silver Pheasant (*Gennæus whiteheadi*) and the new Night-Heron (*Nycticorax magnifica*), had already been described in the

October number of 'The Ibis' for 1899 (pp. 584–587), but in that paper the description of a fine new species of *Urocissa* had been omitted. Mr. Grant now proposed to describe it as

Urocissa whiteheadi, sp. n.

Adult male and female. Head, back, fore-neck, and chest dark earthy brown, darkest on the ear-coverts, and shading into grey on the sides and flanks, and into yellowish buff on the middle of the breast, belly, and under tail-coverts; feathers of the crown rounded at the extremity and edged with whitish brown; rump greyish brown; upper tail-coverts black tipped with white; wings black, except the lesser and median wing-coverts, which are white, save at the base; tips of the primary-quills, margins of terminal half of outer webs of secondaries, and the tips of the greater wing-coverts pure white; middle tail-feathers grey, widely tipped with white, and with a sub-terminal black band, the outer feathers similarly marked, but with the white tips increasing in size and shaded with yellow; axillaries and under wing-coverts clear yellowish white. Iris straw-colour; bill red, shading into brownish yellow at the base; feet dark brown. Total length about 18·0 inches, culmen 1·9, wing 8·2, tail 9·4, tarsus 1·95.

Hab. Five-finger Mountains, interior of Hainan.

Mr. Grant further described a new species of Thick-knee from Southern Arabia, obtained during the recent expedition undertaken by Mr. A. Blayney Percival and the late Mr. W. Dodson:—

Œdicnemus dodsoni, sp. n.

Adult male. Most nearly allied to *Œ. affinis* (Rüpp.), but with the ground-colour of the interscapular region largely mixed with greyish buff, while the deep black markings so conspicuous in the latter species are reduced to shaft-stripes. The greater and median wing-coverts are altogether greyer, the chest and breast more heavily streaked with brownish black, and the middle pair of tail-feathers as well as the outer webs of the two following pairs are mostly grey with indistinct blackish vermiculations and cross-bars. Iris lemon-yellow; bill lemon-yellow, black at the tip; legs lemon-yellow. Total length about 14·5 inches, culmen from feathers on forehead to tip 1·4, wing 8·6, tail 4·9, tarsus 3·4.

Hab. Lahej, S. Arabia.

Mr. Grant further exhibited the types of the 11 new species discovered by Mr. H. Weld-Blundell and Lord Lovat during their recent expedition through Southern Abyssinia.

Mr. Weld-Blundell and Lord Lovat had described the new species as follows:—

1. Oriolus meneliki, sp. n.

Adult. Most nearly allied to *O. monachus*, Gm., from which it may be at once distinguished by having the bill jet-black; the secondary wing-coverts and outer row of median coverts margined with yellow; and the third, fourth, and fifth pairs of tail-feathers with a strongly marked black sub-terminal band. "Iris brown; bill black; legs slate." Total length about 10·0 inches, culmen 1·1, wing 5·6, tail 4·0, tarsus 0·95.

Hab. Burka, Abyssinia: 6th January, 1899.

2. Lusciniola abyssinica, sp. n.

Adult male. Allied to *L. thoracica* (Blyth) and *L. mandellii* (Brooks), but having the upper parts of a darker and richer brown tinged with red on the lower back and rump; the *buff-coloured* chest is separated from the white of the throat by a fairly well-marked band of blackish spots; the sides of the body and flanks are dull rusty brown, and the under tail-coverts uniform dull rust-colour. First primary two-thirds the length of the second, which is about equal to the tenth; fourth, fifth, and sixth sub-equal and longest. Iris brown; upper mandible and extremity of lower blackish horn, rest of under mandible whitish; legs light horn-colour. Total length about 6·0 inches, culmen 0·65, wing 2·1, tail 2·4, tarsus 0·8.

Hab. Lake Chercher, Abyssinia: 12th January, 1899.

3. ORTHOTOMUS MAJOR, sp. n.

Adult male. Allied to *O. erythropterus* (Jardine), but much larger; the bill is light horn-colour instead of black, the forehead and top of the head vinous red, while the chest and rest of the underparts are much paler, being white, washed with very pale cinnamon, especially on the belly, thighs, and under tail-coverts. Iris light hazel; bill and legs light horn-colour. Total length about 6·4 inches, culmen 0·8, wing 2·5, tail 2·7, tarsus 0·92.

Hab. Gitemma, Abyssinia: 14th March, 1899.

4. PSALIDOPROCNE BLANFORDI, sp. n.

Adult male. Most nearly allied to *P. pristoptera* (Rüpp.), but the whole of the upper parts black, glossed with dark green; the underparts darker than the upper surface, and with less green gloss. Iris brown; bill and legs black. Total length about 6·0 inches, exposed part of culmen 0·2, wing 4·3, tail 3·1, tarsus 0·45.

Hab. Bilo, Abyssinia: 4th March, 1899.

5. SPORÆGINTHUS MARGARITÆ, sp. n.

Adult male. General colour above, including the top of the head, dull earthy brown; rump and upper tail-coverts dull crimson; lores, sides of the face, and ear-coverts brownish cinnamon; rest of underparts pale cinnamon-buff, inclining to brownish on the sides of the body; tips of the flank-feathers pink; under tail-coverts white; rectrices brownish black, the two outer pairs inclining to whitish on the outer margin and towards the tip. Iris brown; bill red; legs dark brown. Total length about 4·5 inches, culmen 0·4, wing 1·85, tail 1·8, tarsus 0·55.

Hab. Gelongol, Abyssinia: 13th March, 1899.

6. MELANOBUCCO LEUCOGENYS, sp. n.

Male (not quite adult). Allied to *M. undatus* (Rüpp.), but easily distinguished by having the hinder parts of the cheeks and sides of the neck pure white; the middle of the throat white, tinged with yellow, some of the feathers being tipped with scarlet, and the outer margins of the quills and rectrices, as well as the tips of the upper tail-coverts, golden yellow, instead of pale whitish yellow (Naples yellow). Iris pale yellow; bill and legs black. Total length about 5·8 inches, culmen 0·75, wing 3·1, tail 1·9, tarsus 0·7.

Hab. Konduro, Abyssinia: 25th March, 1899.

7. BARBATULA XANTHOSTICTA, sp. n.

Adult male and female. Most nearly allied to *B. extoni* (Layard) from South-east Africa, but distinguished by having the white middles to all the feathers of the interscapular region and back tipped with golden yellow. Iris brown; bill and legs black. Total length about 4·0 inches, culmen 0·54, wing 2·35, tail 1·25, tarsus 0·55.

Hab. Tchlea, Abyssinia: 8th March, 1899.

8. CAPRIMULGUS STELLATUS, sp. n.

A very distinct species, perhaps most nearly allied *C. griseatus*, Gray.

Adult male. General colour of upper parts earthy brown, with very fine vermiculations of black and greyish, most distinct on the head and neck; each feather of the crown and scapulars ornamented near the extremity of the shaft with a star-shaped black spot margined externally with buff, the external buff markings being especially conspicuous on the scapulars; the wing-coverts and innermost secondaries similarly ornamented with buff, edged internally with black; the markings on the rectrices very similar to those of *C. griseatus,* but the white markings on the four outer primaries much narrower and the red bars on the inner quills much wider and more distinct; underparts very similar to those of *C. griseatus,* but the chest and breast darker and more uniform; two outer pairs of tail-feathers black, irregularly barred with rufous and with only the terminal part (·08 inch) of both webs pure white. Iris brown; bill black; legs brown. Total length about 10·0 inches, exposed part of culmen 0·45, wing 6·1, tail 4·3, tarsus 0·72.

Hab. Kassim river, Abyssinia: 18th January, 1899.

9. **Myrmecocichla dubia**, sp. n.

Adult. Allied to *M. melanura* (Temm.), but larger, and with the under tail-coverts brownish-black, edged with sandy buff instead of white, and the under wing-coverts dusky instead of whitish. Iris brown; bill and legs black. Total length about 6·5 inches, culmen (imperfect) about 0·7, wing 3·15, tail 2·5, tarsus 0·9.

Hab. Fontaly, Abyssinia: 17th January, 1899.

10. **Francolinus tetraoninus**, sp. n.

Adult female. Most nearly allied to *F. schuetti*, Cab., but distinguished by having the dark middles to the feathers of the nape, interscapular region, and wing-coverts but faintly indicated and the chest and breast nearly uniform greyish brown. Iris brown; bill dull orange-red; legs and feet orange-red. Total length 12·5 inches, culmen 1·05, wing 6·5, tail 2·65, tarsus 1·65.

Hab. Mendi, Abyssinia: 18th April, 1899.

11. **Francolinus harwoodi**, sp. n.

Adult male. Most nearly allied to *F. natalensis*, Smith, and *F. icterorhynchus*, Heugl. From the former it may be distinguished by having the feathers of the occiput and back of the neck black, narrowly margined with white, producing a strongly squamated appearance; the chest, upper part of the breast, and sides of the body greyish brown, ornamented with narrow concentric black and white bands; the breast, belly, and rest of the underparts pale ochraceous, with a few subconcentric black markings. It resembles *F. icterorhynchus* in having the upper parts indistinctly barred with pale greyish brown, the inner webs of the primary-quills mottled with pale rufous, and the ground-colour of the breast and belly pale ochraceous. Iris brown; bill, naked skin round eye, and legs red. Total length about 14·5 inches, culmen 1·15, wing 7·1, tail 3·3, tarsus 2·1.

Hab. Ahaia Fej, Abyssinia: 7th February, 1899.

XI.—*Notices of recent Ornithological Publications.*

1. *Andrews on the Skeleton of* Phororhacos.

[On the Extinct Birds of Patagonia.—I. The Skull and Skeleton of *Phororhacos inflatus* Ameghino. By C. W. Andrews, B.Sc., F.Z.S. Trans. Zool. Soc. xv. pp. 55–86, pls. xiv.–xvii.]

Here we have at last an excellent description of the remains of the extinct Patagonian wonder, *Phororhacos inflatus,* with good illustrations of what is known of its osseous structure, taken from the original specimens of Señor Ameghino, now in the British Museum. As Mr. Andrews tells us, this bird "presents a most extraordinary combination of characters to which no close parallel can be found amongst recent forms." A summary of opinions as to its relationships has already been given to us by the same author in this Journal (Ibis, 1896, p. 12).

2. *Annals of Scottish Natural History.*

[The Annals of Scottish Natural History. A Quarterly Magazine, with which is incorporated 'The Scottish Naturalist.' No. 31, July 1899, and No. 32, October 1899.]

We are glad to learn from our colleague, Mr. T. G. Laidlaw, that increasing interest appears to be felt in the movements and occurrences of birds in Scotland, to judge from the schedules returned; his valuable report for 1898 is to be found on pp. 140–158. Under the heading "Obstacles to the Protection of Birds' Eggs in Scotland" are printed specimens from many letters addressed as recently as 1898 and 1899 to ornithologists and lighthouse-keepers, in which the writer—whose name is given—asks "in exchange" for "full separate clutches taken only in Great Britain, Ireland, or Faroe, with satisfactory data" of eggs, among which may be noted, "Eagles (both), Osprey, Kite, Honey-Buzzard, Harriers (all three), Dotterel, Greenshank, Ruff, Roseate Tern, Great Skua"; not to mention eggs of some species covered by the game-laws. *Inter alia* the writer says he "can spare many good clutches of Choughs (Irish)." We are sorry to learn that Ospreys have been destroyed in the counties of Argyll and Aberdeen. Examples of the Golden Oriole, a very rare wanderer to Scotland, occurred in the Solway area at the end of April, and in Clackmannanshire on the 19th of May. In the October number, Col. John Campbell records the recent increase of the Stock-Dove and of four species of Ducks in the Tay area, and discusses the reasons assignable for the decrease of other birds. Lt.-Col. L. H. Irby follows with a short but very useful paper containing comparative lists of the birds found on Coll and Tiree, islands which are not far apart, but differ in natural conditions, and consequently in their avifaunas. Mr. Harvie-Brown reproduces Mr. Heatley Noble's account of the nesting of the Scaup-Duck in Sutherland, with some remarks; and a few interesting occurrences are recorded among the minor notices.

3. *Arrigoni degli Oddi on rare Italian Birds.*

[Elenco degli Uccelli rari o più difficili ad aversi conservati nella sua Collezione Ornitologica Italiana al 31 Dicembre, 1898. Pel Prof. Ettore Arrigoni degli Oddi. 'Ornis,' ix. p. 199.]

Professor Arrigoni describes some of the choice specimens of his collection of Italian birds at Ca' Oddo, near Monselice, formed since 1883, and containing at present some 4500 specimens. Among the 179 species enumerated are examples of *Nyctala tengmalmi*, *Muscicapa parva*, *Turdus fuscatus*, *Dromolæa leucura*, *Motacilla lugubris*, *Melanocorypha sibirica*, *Emberiza cæsia*, and *Cygnus musicus*. There are 2 specimens of *Larus genei* [*L. gelastes*] from the Italian peninsula, and an example of *Colymbus glacialis* from the Lago di Garda. *Porphyrio cæruleus* is stated to occur regularly in the marshes round the Lake of Lesina in Tuscany.

4. '*The Auk.*'

[The Auk. A Quarterly Journal of Ornithology. Vol. xvi. Nos. 3 and 4, July and October, 1899.]

The coloured plate in the former of these numbers contains figures of the first plumages of *Dendroica coronata* and *Icteria virens* to illustrate a paper on sequence of plumages by

Dr. Jonathan Dwight, Jr. Mr. D. G. Elliot upholds *Cygnus* as the proper generic term for the White Swans, as against the claims of *Olor*; he next discusses some other species and genera; and goes on to arrange the Turkeys as *Meleagris fera*, Pennsylvania to Florida, west to Wisconsin and Texas; *M. fera osceola*, Florida; *M. intermedia*, Southern Texas and Eastern Mexico, below 2000 feet; and *M. gallopavo*, Western Texas to Arizona, and tablelands of Mexico. Dr. T. S. Roberts gives an interesting account of *Protonotaria citrea*, illustrated with fine photographs of the extraordinary places often selected by this Warbler for its nest. Mr. Ridgway concludes his list of new subspecies of Fringillidæ, and starts with the Corvidæ; while Mr. Oberholser gives his opinion that *Geothlypis trichas arizela* of the Pacific coast is subspecifically distinct from the Nevada bird. Of wider interest is Mr. Mackay's descriptive paper on the Terns and Laughing Gulls of Muskeget and Penikese Islands. Mr. Ruthven Deane records the shooting of the European Wigeon (*Mareca penelope*) in Indiana, making the ninth occurrence of this duck in the interior of the United States. No. 4 opens with an article by Mr. Witmer Stone, illustrated by coloured figures of the male of the Rose-breasted Grosbeak (*Zamelodia ludoviciana*) in immature and adult winter plumages. Mr. S. N. Roads follows with notes on some of the rarer birds of Western Pennsylvania; and Mr. F. J. Birtwell remarks upon aptosochromatism (colour-change without moult), as influenced by diet, in *Megascops asio*; while Mr. J. Bickerton Williams contributes an interesting article on the colour of certain birds in relation to inheritance. In a rare literary and scientific journal, the 'Registro Trimestre,' published in Mexico in 1832 and 1833, Mr. C. W. Richmond has found (in vol. ii.) descriptions of five species of Trochilidæ which had been overlooked, and these he copies *verbatim*, giving his identifications. Another valuable bit of research by Mr. Richmond is his article on the date of Lacépède's "Tableaux." Mr. Oberholser contributes a monograph of the genus *Contopus*; and Dr. J. A. Allen gives a very useful republication of descriptions of new species and subspecies of North-American birds. The minor notices are chiefly of local interest.

5. *Bolau on the new Bird-house in the Hamburg Zoological Gardens.*

[Das neue Vogelhaus für deutsche Vögel im Zoologischen Garten zu Hamburg. Von Dr. Hermann Bolau. Zool. Garten, xl. p. 1.]

The new house for German birds in the Zoological Garden of Hamburg faces due south, and is built in the form of an elongated veranda, so as to be entirely open in front in summer, being closable by shutters in winter and in bad weather. It contains 84 small and 4 large cages, and is entirely devoted to native birds. Full particulars of it are described and plans added. In the list of the birds housed are enumerated 105 species, principally of Passeres, the remaining Orders of Birds being mostly provided for elsewhere.

6. *Buller on the Ornithology of New Zealand.*

[On the Ornithology of New Zealand. By Sir Walter L. Buller, K.C.M.G. Trans. N. Z. Inst. 1898.]

Sir Walter Buller's address to the Wellington Philosophical Society for 1898 contains many interesting notes on the Birds of New Zealand. We have first full details as to the capture of the fourth known example of the Takahé (*Notornis hochstetteri*)—"the most important ornithological event of the year." It is hoped that this specimen may be retained in the Otago Museum, where it has been placed "on deposit." A photographic picture of it accompanies the address. We have also various particulars respecting the Wood-hens (*Ocydromus*), another most important element of the New Zealand Ornis which is generally believed to be fast perishing. It is gratifying, however, to know that the bird is increasing in certain localities under measures taken for its protection, as are some other species, such as the Pied Fantail (*Rhipidura flabellifera*). Among the rarer species of which specimens have been recently procured Sir Walter mentions *Anthornis* *melanocephala* (of Chatham Island) and *Clitonyx albicapilla.* The extraordinary Ground-Parrot or Kakapoo (*Stringops habroptilus*) is reported to be still "plentiful on the west coast of the Southern Island." The widely-extended Common Heron may now be included in the New Zealand avifauna, a specimen of it having been recently obtained on board a steamer off the east coast; and to this may be added *Puffinus tenuirostris,* Temm., which has been ascertained to breed on Stephens' Island.

7. *Bulletin of the Liverpool Museums,* Vol. ii. No. 1.

[1. The Expedition to Sokotra: Descriptions of the New Birds. By W. R. Ogilvie Grant and H. O. Forbes, LL.D.

2. Catalogue of the Coraciæ: Cuckoo-Rollers, Rollers, Motmots and Todies, Kingfishers and Bee-eaters, and of the Trogons (*Trogonidæ*) in the Derby Museum. By H. O. Forbes and H. C. Robinson.]

In this number of the 'Bulletin' we find a short history of the highly successful Socotran Expedition of 1898–1899, followed by descriptions of the birds discovered by it. These are characterized as *Scops socotranus, Fringillaria insularis, F. socotrana, Caprimulgus jonesi, Phalacrocorax nigrogularis, Passer hemileucus,* and *Motacilla forwoodi.* The last two are from the little island of Abd-el-Kuri, off Cape Guardafui. We are promised a volume with a complete account of the expedition and its results.

Messrs. Forbes and Robinson continue their useful catalogue of the Birds of the Liverpool Museum, and now treat of the Leptosomatidæ, Coraciidæ, Momotidæ, Todidæ, Alcedinidæ, Meropidæ, and Trogonidæ of that important collection. A new subspecies of Bee-eater is described as *Melittophagus gularis gabonensis* (from Gaboon), and a new Trogon as *Pyrotrogon neglectus* (from Malacca). We are quite in favour of altering names if incorrect, but cannot accede to the proposal to change the name of the African Trogon *Hapaloderma narina* to "*narinum.*" The name was proposed by Le Vaillant in honour of a beautiful young Hottentot girl "Narina," who was certainly not of the neuter gender!

8. *Chapman on new Venezuelan Birds.*

[Descriptions of five apparently new Birds from Venezuela. By Frank M. Chapman. Bull. Am. Mus. N. H. xii. p. 153 (1899).]

From a collection made in Venezuela in the mountains near San Antonio, about 90 miles from Cumaná, by Mr. F. W. Urich, which contains examples of 37 species, the following are described as new:—*Setophaga verticalis pallidiventris*, *Chlorospingus* (*Hemispingus*) *canipileus*, *Mecocerculus nigriceps*, *M. urichi*, and *Synallaxis striatipectus*.

9. *Cordeaux on the Birds of the Humber District.*

[A List of British Birds belonging to the Humber Disrict. (Having a special reference to their Migrations.) Revised to April 1899. By John Cordeaux. 8vo. London: R. H. Porter, 1899.]

A melancholy interest attaches to this little work, because, as we remarked in the obituarial notice of our late friend and brother-member of the B. O. U., it was finished only a short time before his lamented death. In this valuable supplement to the author's earlier and larger work on the same subject (published in 1872), the number of species is raised to 322, and a wonderful amount of recent information is conveyed in a small compass. This is owing, of course, in a great measure to the work of the Committee on Migration of which Cordeaux was a leading member. The list is a model. It is unfortunate that by a typographical error the line "Order Tubinares" should have slipped from its proper place, which is above—and not below—"Family Procellariidæ."

10. *Dahl on the Habits of the Birds of the Bismarck Islands.*

[Das Leben der Vögel auf den Bismarckinseln. Von Fr. Dahl. Mitteil. Mus. f. Nat. in Berlin. Band I. Heft 2, 1899.]

Following Dr. Reichenow's account of the birds of the Bismarck Islands and in connection with it (see below, p. 211), we have an excellent essay on the lives and habits of the feathered inhabitants of these little-known lands by one who has evidently studied them to great advantage. Among a mass of new information will be found records of the habits and nesting of *Nasiterna pusio, Eclectus pectoralis, Tanysiptera nigriceps, Macropteryx mystacea,* and many other strange species.

11. *Finn on a new Indian Weaver-bird.*

[Exhibition of Two Living Specimens of a new Indian Species of Weaver-bird. By F. Finn. Proc. Asiatic Soc. Bengal, 1899, p. 77.]

Ploceus rutledgi is based by Mr. Finn on living specimens obtained by Mr. W. Rutledge from Naini Tal, where the species is "probably not uncommon." It is closely allied to *P. baya,* but larger and entirely yellow beneath. It is strange, indeed, that such a novelty should have hitherto escaped notice.

12. *Goeldi on the Nest of* Panyptila cayanensis.

[A Lenda Amazonica del Cauré. Pelo Dr. Emilio A. Goeldi. Bol. Mus. Paraense, ii. p. 430 (1898).]

It seems that the long purse-like nest of the Cayenne Swift, *Panyptila cayanensis,* is in Lower Amazonia universally attributed to the little Falcon, there popularly called "Cauré," i. e. *Falco rufigularis,* and that various legends and superstitions are connected with these nests, which are much valued at Pará. Dr. Goeldi has now demonstrated what species is the real maker of those beautiful structures, and the baselessness of the vulgar errors referring to them. The nest of *Panyptila cayanensis* is in fact a diminutive form of that of *P. sancti-hieronymi,* first discovered by Salvin in Guatemala (*not* in Guiana, as Dr. Goeldi seems to suppose). The Guianan species of *Panyptila* is the same as the Amazonian, namely, *P. cayanensis.* See Ibis, 1897, p. 262.

13. *Hartert on the Birds of St. Aignan.*

[On the Birds collected by Mr. Meek on St. Aignan Island in the Louisiade Archipelago. By E. Hartert. Nov. Zool. vi. p. 206 (1899).]

Mr. Hartert has already catalogued the birds collected by Mr. Meek on Sudest and Rossel Islands of the Louisiade group (*cf.* Ibis, 1899, pp. 321, 650). He now gives us an account of those of St. Aignan or Misuna obtained by the same adventurous collector. They are referred to 64 species and subspecies, of which *Gerygone rosseliana onerosa*, *Zosterops aignani*, and *Macropygia doreya cunctata* are described as new. A table is added showing all the known species of the three principal Louisiade islands—St. Aignan (65), Sudest (46), and Rossel (37 species). The known species and subspecies restricted to the Louisiades are now 32 in number.

14. *Hartert on Species of* Cyclopsitta *and* Ptilinopus.

[On some Species of the Genera *Cyclopsitta* and *Ptilinopus*. By Ernst Hartert. Nov. Zool. vi. p. 219 (1899).]

The heads of both sexes of four allied species of Parrots of the genus *Cyclopsitta*, *C. macleayana*, *C. virago*, *C. aruensis*, and *C. inseparabilis*, are figured on plate iv. These are accompanied by illustrations of the heads of two Fruit-Pigeons, *Ptilinopus granulifrons* from Obi Mayor, Moluccas, and *P. hyogaster* from Halmahera and Batchian.

15. *Hartert and Rothschild on 'The Ornithology of the Galápagos.'*

[A Review of the Ornithology of the Galapagos Islands, with Notes on the Webster-Harris Expedition. By the Hon. Walter Rothschild, Ph.D., and Ernst Hartert. Nov. Zool. vi. p. 85 (1899).]

This important paper gives us a complete account of the ornithological results of the expedition sent out to the Galapagos in 1897 by Mr. Webster (of the U.S.A.) and Mr. Rothschild for the exploration of the natural history of these wonderful islands. The first attempt having miscarried, through the death of three of the party from yellow fever caught at Colon, Mr. Harris, the leader of the expedition, was unable to leave San Francisco until June 1897, when he started, with two collectors, in a two-masted schooner, and, after a short stay at Clarion Island, reached the Galapagos on July 26th. The party visited successively Culpepper, Wenman, Abingdon, Bindloe, Jervis, James, Barrington, Chatham, Hood, Charles, Albemarle, Narborough, and Tower Islands, and regained San Francisco on Feb. 8th, 1898, with a collection of 3075 birds—not to speak of tortoises and other specimens. After a short general introduction, the diaries and field-notes of Mr. Harris and Mr. F. P. Drowne are printed at full length. They are well worthy of perusal.

In the general remarks on the fauna of the Galapagos, which follow, the authors show more clearly than ever that the bird-life is entirely of American origin, without any sort of admixture. As regards the somewhat far-fetched theories of Dr. Baur, they prefer to leave the questions as to the supposed former connection of the islands with each other and with the continent as "uncertain": we may say decidedly "not proven."

In the review of the 108 species of birds now known to compose the avifauna of the Galapagos, which concludes the memoir, the authors have had the use of the Baur Collection of 1100 skins, as well as of that made by Mr. Harris. They acknowledge the assistance received from Mr. Ridgway's excellent essay on the 'Birds of the Galapagos Archipelago,' but do not agree to all his conclusions. Most of the new species and subspecies based on Mr. Harris's collection have been already characterized in the 'Bulletin of the B. O. C.,' but the following are now added:—*Certhidea olivacea ridgwayi*, *Geospiza scandens septentrionalis*, *Nesopelia galapagoensis exsul*, and *Creciscus sharpei*. The most notable discoveries made by Mr. Harris seem to be the Short-winged Cormorant, *Phalacrocorax harrisi*, and the abundance of *Xema furcata* in the Galapagos, whence it has been known to wander to the coast of Peru; it has also been obtained on the volcanic island of Malpelo, in about lat. 4 N. [*cf.* Ibis, 1896, p. 286].

16. *Helms on some Birds from Greenland.*

[Ornithologiske Meddelelser fra Grönland. Af O. Helms. Vid. Meddel. fra d. naturh. Foren. i Kbhvn. 1899, p. 231.]

Herr Helms, who has already contributed much to our knowledge of the birds of Greenland (*v.* Vid. Meddel. 1892, 1894, 1898), writes on two small collections recently received from that country. In the first of these, from Angmagsalik, in East Greenland, there are no new species represented; in the second, from West Greenland, the first occurrences in Greenland of the White-billed Northern Diver, *Colymbus adamsi*, and of the Bobolink of North America, *Dolichonyx oryzivorus*, are recorded.

17. *Herman on the Migration Question.*

[Vom Zuge der Vögel auf positiver Grundlage. Von Otto Herman. 'Aquila,' 1899, p. 1.]

Those who are interested in the question of the migration of birds should not fail to consult Herr Herman's essay, which contains a good *résumé* of the present state of our knowledge of this very difficult and mysterious subject. Although much light has been thrown upon it by the numerous writers of whose labours the author gives us the results, we cannot say that either the causes of migration or the manner in which it is effected have been yet satisfactorily explained.

18. *'Irish Naturalist.'*

[The Irish Naturalist, a Monthly Journal of general Irish Natural History. Edited by G. H. Carpenter and R. Lloyd Praeger. Vol. viii. Nos 5-12. Dublin: Eason & Sons, Ltd., 1899.]

The ornithological portion of this useful magazine continues to be well kept up. The notes on the Razorbill, made by Mr. Carron, one of the Irish lighthouse-keepers, and communicated by Mr. R. M. Barrington, are well deserving of attention; and Mr. Edward Williams's account of the occurrence of the Sociable Plover (*Vanellus gregarius*) near Navan, co. Meath, is of remarkable interest. A photograph of this rare visitor, with full details, is given in the November part, and it is rather remarkable that, although this bird's most western breeding-limit is in the Crimea, yet the first British example occurred in Lancashire, and the present specimen has been obtained in Ireland. Dr. C. J. Patten, after writing at some length about the nesting of the Little Tern, has given a more concise account of the birds observed on the coast of co. Dublin. Among the shorter, but by no means less important notices, Mr. R. Warren supplies some interesting information respecting the spring-migration of *Motacilla alba* along Killala Bay, in the west; and Mr. R. J. Ussher describes a large colony of Cormorants (*Phalacrocorax carbo*) breeding on trees on an island in a lonely lake in the Mayo mountains, upwards of eighty nests having been counted. Among the especial rarities for Ireland, occurrences of the Rose-coloured Pastor, Golden Oriole, Night-Heron, Wood-Sandpiper, and Montagu's Harrier may be mentioned, and these records indicate an increased interest in the avifauna of the island.

19. *Jackson's 'Thousand Days in the Arctic.'*

[A Thousand Days in the Arctic. By Frederick G. Jackson. Two vols. London and New York: Harper Brothers, 1899.]

The two volumes of Mr. Jackson's journals, as given in the history of his thousand days in Franz-Josef Land, contain numerous references to birds, especially to those which appear to have furnished a considerable portion of the subsistence of the hardy explorers during their stay. Mr. W. Eagle Clarke's memoir in this Journal ('Ibis,' 1898, p. 249) has already placed the main results of the Harmsworth-Jackson Expedition as regards ornithology before the world; but some additional information will be found in the Appendix to the present work, contained in Mr. Jackson's own field-notes on the birds met with during the stay in Franz Josef Land, and in an article on the eggs collected, prepared by Mr. F. W. Frohawk.

20. *Kempen on some Birds of Hybrid Origin or Abnormal Plumage.*

[Notes sur quelques Oiseaux Hybrides ou à Plumage Anormal. Par Ch. van Kempen. 'Ornis,' ix. p. 251.]

Mr. Ch. v. Kempen describes some recently-acquired specimens of hybrids and abnormal plumages from his own collection—such as *Anas boschas* ♂ × *Mergus merganser* ♀;

Tetrao urogallus, ♀, in partly male plumage; and a curious variety of *Fringilla cœlebs*.

21. *Kirby's 'Sport in East Central Africa.'*

[Sport in East Central Africa, being an Account of Hunting-trips in the Portuguese and other Districts of East Central Africa. By F. Vaughan Kirby. London: Rowland Ward, Ltd., 1899.]

Although Mr. Kirby's volume, as will be evident from its title, relates chiefly to his sporting adventures when in pursuit of the larger mammals, frequent allusions to birds will be found in it (see, for example, pp. 103, 132, 142, 190, and 230). His companion, Mr. James J. Harrison, seems to have collected bird-skins, but we are not aware that these have ever been examined by a competent ornithologist. Mr. Kirby's travels were mostly in the Portuguese provinces north and south of the Lower Zambesi. It is much to be regretted that no map is given in the volume to show his exact routes.

22. *Lee's Photographs of British Birds.*

[Among British Birds in their Nesting-Haunts, illustrated by the Camera. By Oswin A. J. Lee. Parts XIV. & XV. 4to. Edinburgh: D. Douglas, 1899.]

In Part XIV. the breeding-places of the following species are figured:—*Turtur communis, Strix flammea, Acrocephalus streperus, Passer montanus, Œdicnemus scolopax, Perdix cinerea* (two plates), *Fuligula cristata, Garrulus glandarius,* and *Alcedo ispida*. Part XV. contains:—*Pratincola rubetra, Pandion haliaëtus* (two plates), *Procellaria pelagica, Emberiza citrinella* (two plates), *Columba livia, Puffinus anglorum, Motacilla melanope,* and *Lagopus scoticus*. All are beautiful, but we may select for special praise the plate of the Grey Partridge on her nest, and the next one, with the eggs exposed; the Whinchat; and the two of Osprey's nests in Strathspey. It is sad to learn that since 1896 not only have the eggs of the last been taken, but that one of the breeding-birds has been shot. Mr. Lee speaks of the difficulty experienced in getting a Turtle-Dove to "sit" to him; and we wonder if he has ever tried Mr. R. Kearton's portable artificial tree-trunk, of which he will find two illustrations (open and closed) in 'Wild Life at Home,' pp. 12–13. Mr. Lee's remark that each individual Barn-Owl seems to have its favourite food, as the pellets under one nest will contain only the remains of mice, and those under another tree all rats or small birds, is a much-needed warning against generalizing from scanty data. The letterpress is as good as usual, but some of the vignettes are rather deficient in interest.

23. *Madarász on Birds from New Guinea.*

[Ornithologische Sammel-Ergebnisse Ludwig Biró's in Neu-Guinea. Bearbeitet von Dr. Julius v. Madarász. Termés. Füzetek. 1899, p. 375.]

Since the first list of Biró's collection in German New Guinea was published (*cf.* 'Ibis,' 1898, p. 166), further consignments have been received at Buda-Pesth, together with a series of field-notes made by the collector. Dr. v. Madarász now gives a complete list of Biró's birds, accompanied by these useful notes. They are prefaced by an interesting letter from Biró, in which an account is given of his principal collecting-quarters, near the native village of Erima, about four kilometres N.W. of Stephansort, and of the natives of that district and their various languages.

The list enumerates 103 species, among which is a rare Kingfisher, *Halcyon elisabeth* Heine, stated to be omitted in the B.M. Catalogue. This species is figured, as are also *Rhipidura leucothorax* Salvad., and *Astur novæ-guineæ*—a new discovery of Biró's, which has been previously described by Madarász (Orn. Mon. 1899, p. 27). Some breastbones are figured in the text, also the curious chick of *Centropus menebeki*.

24. *Madarász on Additions to the Hungarian Ornis.*

[Further Contribution to the Hungarian Ornis. By Dr. Julius von Madarász. Termés. Füzetek. 1899, p. 344.]

We may consider, Dr. v. Madarász tells us, Joh. v. Frivaldsky's 'Aves Hungariæ,' published on the occasion of the Ornithological Congress at Buda-Pesth, to be the most trustworthy on the Hungarian Ornis. The object of the present paper is to enumerate some species omitted in that list and to give notes on them. These species—or forms—are 29 in number; among them are *Lycus* (scr. *Corvus*) *collaris* Drummond, *Galerita senegalensis*, *Ægithalus castaneus* Sev., and *Chen hyperboreus* (Pall.).

25. *Nelson on new Birds from North-western Mexico.*

[Descriptions of new Birds from North-western Mexico. By E. W. Nelson. Proc. Biol. Soc. Washington, xiii. p. 25 (1899.)

The collection from which the specimens here described were obtained was formed by Mr. E. A. Goldman in Western Mexico for the Biological Survey of the U.S. Department of Agriculture. The species and subspecies now characterized as new are named *Amazona albifrons saltuensis*, *Antrostomus goldmani*, *Aphelocoma grisea*, *Pipilo fuscus intermedius*, *Cardinalis cardinalis affinis*, *C. c. sinaloensis*, *Arremonops superciliosa sinaloæ*, *Basileuterus rufifrons caudatus*, *Thryothorus felix pallidus*, *Heleodytes stridulus*, *Myiadestes obscurus cinereus*, and *Catharus olivascens*.

26. *Reichenow on the Birds of the Bismarck Islands.*

[Die Vögel der Bismarckinseln. Von Ant. Reichenow. Mitteil. Mus. f. Nat. Berlin. Band I. Heft 3, 1899.]

The "Bismarck Islands," it may be necessary to explain to some of our readers, is the name assigned by their present possessors to the group of islands east of New Guinea, formerly called New Britain, New Ireland, and Duke of York Island, but of which the names have been very unnecessarily, in our opinion, changed to "Neu-Pommern," "Neu-Mecklenburg," and "Neu-Lauenburg," together with the adjacent groups of New Hanover and the Admiralty Islands.

After an historical account of our knowledge of the bird-life of these islands (which commenced with the visit of the French naturalists Lesson and Garnot, in the corvette

'La Coquille,' to Port Praslin, in New Ireland, in 1823), and an alphabetical list of the authorities on the subject, Prof. Reichenow gives us a short essay on the general aspects of the avifauna of the Bismarck Islands. These belong essentially to the Papuan Division of the Australian Region, but present several well-marked points of difference. The complete list of the birds which follows shows that we are now acquainted with 178 species from these islands, referable to 38 different families. Of these 178 species, no fewer than 74 are peculiar to the group, though most nearly related to Papuan forms. Under each species, besides the principal references and exact localities, short descriptions are given, with remarks. On a coloured plate are figured *Myiagra novæ-pomeraniæ*, *Rhipidura dahli*, and the nest of *Rhipidura setosa*. The whole paper forms a very useful manual, and will, we trust, lead to the further exploration of this most interesting avifauna, concerning which comparatively little is yet known.

27. *Rey on the Eggs of Middle-European Birds.*

[Die Eier der Vögel Mitteleuropas. Von Dr. Eugène Rey. Lief 1, 2. 8vo. Gera-Untermhaus, 1900.]

We have received the first two numbers of a new popular work on the eggs of the birds of Europe, by Dr. Eugène Rey. It will be completed in 25 parts, with five plates printed in colours in each part. The figures of the eggs seem to be well drawn and nicely coloured, and we have no doubt that the new undertaking will be much appreciated in Germany, where, so far as we know, there has been no publication on birds'-eggs issued since that of Bädeker in 1863.

28. *Rothschild on Birds from New Guinea and the Sula Islands.*

[On some Rare Birds from New Guinea and the Sula Islands. By the Hon. W. Rothschild. Nov. Zool. vi. p. 218 (1899).]

Mr. Rothschild now figures (pl. ii.) the curious Parrot, previously described by him under the name *Charmosyna* *atrata.* A second specimen, lately received from British New Guinea, is supposed to be a female of the same species. On the same plate is figured the singular Finch *Oreostruthus fuliginosus* of De Vis, of which the Tring Museum has lately received a good series from Mount Knutsford, British New Guinea. From the same locality have been received five additional specimens of the remarkable Passerine bird *Ifrita coronata* Rothsch., now figured on plate iii., which also contains an illustration of the new *Pitta dohertyi*, discovered by Doherty on Sula Mangoli.

29. *Schalow on Birds from Spitsbergen.*

[Einige Bemerkungen zur Vogelfauna von Spitzbergen. Von Herman Schalow. J. f. O. 1899, p. 375.]

After some preliminary remarks on recent accretions to our knowledge of the North-Polar Avifauna, Herr Schalow gives an account of the birds collected by Dr. Römer and Dr. Schaudinn in the course of the voyage of the ss. 'Helgoland' in the Spitsbergen seas in 1898, on which a report has been lately published by Capt. Rüdiger in the 'Verhandelungen' of the 'Gesellschaft für Erdkunde' of Berlin (xxv. p. 430, 1898). Examples of 12 species were obtained, upon which various notes are given. Among these were three adult specimens in breeding-dress of *Xema sabinii*, being the first recorded as obtained on the Nordostland of Spitsbergen. *Gavia alba* (i. e. *Pagophila eburnea*) was found breeding in hundreds on Abel Island, King-Karl's Land. Examples of a breeding Bernicle Goose, with four young in down, were procured in Wide Bay, North-west Spitsbergen, and a Whimbrel was shot on Bear Island on June 4th.

30. *Sharpe's Hand-list of the Genera and Species of Birds.*

[A Hand-list of the Genera and Species of Birds. [Nomenclator Avium tum Fossilium tum Viventium.] By R. Bowdler Sharpe, LL.D. Vol. I. 8vo. London, Printed by order of the Trustees of the British Museum, 1899.]

The first volume of Dr. Sharpe's new 'Hand-list of Birds' (see Bull. B. O. C. viii. p. xxiv) was issued in

November last. It makes an excellent index to the 'Catalogue of Birds,' containing in every case a reference to the volume wherein each species is described and its synonymy, to which is added a concise indication of the *patria.* Besides this, all additional species characterized during the publication of the Catalogue are inserted in their proper places; while the extinct forms (which were not mentioned in the former Hand-list of 1869-71) are interpolated in their correct positions, so far as these can be ascertained. The latter are mostly taken from Mr. Lydekker's 'Catalogue of Fossil Birds' of 1891.

In the present List Dr. Sharpe follows (nearly) the classification which he put forward at the Ornithological Congress of 1891, and begins at the bottom of the Class. This, we are well aware, is the modern fashion, but it is not at all convenient, as until recent years all systematic writers on ornithology have taken the opposite course. The volume commences, therefore, with the Ratitæ, and contains all the lower Orders of Birds up to what *we* call the Psittaci, Picariæ, and Passeres. These, we presume, will be treated of in the second and third volumes, to the issue of which we look forward with great interest, as the 'New Hand-list,' when complete, will be of surpassing value to all ornithologists.

So far as we can make out, only four new generic terms are proposed in the present volume—*Mezotreron* for *Ptilopus dohertyi* Rothsch., *Pseuduria* for *Uria columba* (Pall.), *Nannopterum* for *Phalacrocorax harrisi* Rothsch., and *Psiloscops* (ex MS. Coues) for *Scops flammeola* Kaup.

The subjoined table (p. 215) gives the number of species and genera recognized in the 33 Orders of Birds that are treated of in the present volume. We have ventured to simplify the name of the 24th Order of Carinatæ by omitting one syllable, because the correct genitive of "*Cathartes*" in Latin would not, we believe, be '*Cathartidis.*'

	Order.	No. of Genera.	No. of Species.
	I. SAURURÆ.		
I.	Archæopteryges	1	2
	II. RATITÆ.		
I.	Rheiformes	3	6
II.	Struthioniformes	1	10
III.	Casuariiformes..........	5	25
IV.	Dinornithiformes	6	30
V.	Æpyornithiformes	2	13
VI.	Apterygiformes	3	8
	III. CARINATÆ.		
I.	Tinamiformes	9	70
II.	Galliformes	100	512
III.	Hemipodii	2	27
IV.	Pteroclidiformes	3	21
V.	Columbiformes	93	557
VI.	Opisthocomiformes	1	1
VII.	Ralliformes	66	252
VIII.	Podicipedidiformes	7	25
IX.	Colymbiformes	2	7
X.	Hesperornithiformes	5	7
XI.	Sphenisciformes	10	24
XII.	Procellariiformes........	27	127
XIII.	Alciformes	15	33
XIV.	Lariformes	24	132
XV.	Charadriiformes	119	314
XVI.	Gruiformes	18	52
XVII.	Stereornithes	10	19
XVIII.	Ardeiformes............	81	185
XIX.	Phœnicopteriformes	7	23
XX.	Anseriformes	77	256
XXI.	Gastornithiformes	5	7
XXII.	Ichthyornithiformes	5	13
XXIII.	Pelecaniformes	13	105
XXIV.	Cathartiformes..........	6	10
XXV.	Accipitriformes	93	526
XXVI.	Strigiformes............	32	328
		851	3,727

31. *Winge on the Birds of the Danish Lighthouses,* 1898.

[Fuglene ved de danske Fyr i 1898. 16de Aarsberetning om danske Fugle. Ved Herluf Winge. Vid. Meddel. fra d. naturh. Foren. i. Kbhvn. 1899, p. 337.]

The excellent and methodical Annual Report on the birds taken and observed at the Danish lighthouses, accompanied by the usual well-drawn map, is again before us (*cf.* Ibis, 1899, p. 152). The Report for 1898 informs us that 940 specimens were received in that year from 33 lighthouses, besides notices of others, bringing up the total to 1300 occurrences. These are referable to 60 species, of which three are new to the list, namely, *Totanus ochropus, Corvus frugilegus,* and *Loxia curvirostra.* The three species that occurred most numerously in 1898 were *Alauda arvensis, Sturnus vulgaris,* and *Turdus merula,* not usually considered as migrants in Denmark.

32. *Witchell on Birds' Notes.*

[Cries and Call-Notes of Wild Birds: a popular Description of the Notes employed by our commoner British Birds in their Songs and Calls. With Musical Illustrations. By C. A. Witchell. 8vo. London: Upcott Gill, 1899.]

In 'The Ibis,' 1896, p. 582, we gave a favourable notice of this author's 'Evolution of Bird-Song'; and in pursuit of the fascinating subject of bird-language Mr. Witchell has now produced a little book in the popular style supposed to be suited to the tastes of the end of this century. Town-birds, Woodland-birds, Upland-birds, and Water-birds form the main divisions of the work, and there is plenty of good matter in the author's remarks. There will, however, be always the difficulty that few persons can go far in agreement as to the rendering of birds' notes; in fact, their unanimity on this subject is rare, while their divergence of opinion is often extreme.

33. *Messrs. Woodward on the Birds of Natal.*

[Natal Birds (including the Species belonging to Natal and the Eastern Districts of the Cape Colony). By R. B. and J. D. S. Woodward. Pietermaritzburg, 1899. 216 pp.

This is a series of field-notes on the birds of Natal and Zululand, some of which have already appeared in the columns of this Journal (see Ibis, 1897, pp. 400, 495; 1898, p. 216). They contain many interesting particulars on the habits of the feathered creatures of this district, in which the writers have had a long and varied experience.

The figure of *Stactolæma woodwardi* (Ibis, 1897, pl. x.) is repeated in this volume.

XII.—*Letters, Extracts, Notices, &c.*

We have received the following letters, addressed "to the Editors of 'The Ibis'":—

Sirs,—I have just received my copy of the last number of 'The Ibis,' and I ask you to rectify the notice on the habitat of *Gisella jheringi* Sharpe. The example sent by me to the British Museum was not from S. Paulo, but was obtained by Mr. Chr. Euler in the colony of S. Lourenço, Rio Grande do Sul. The second example, from S. Paulo, is in our Museum, stuffed. The description of it agrees with that of Dr. Sharpe, but I am not informed by the British Museum Catalogue as to the tail of *G. harrisi*. Our example has the last or subterminal of the three caudal bars buff, and the white spots of the upper tail-coverts confluent into bars. Its measurements are 139 mm. of the wing, 77 mm. of the tail.

Yours &c.,

S. Paulo,
August 12th, 1899.

H. von Jhering.

Sirs,—I am sorry to say that the native "shooting-men" have at last found out that there is a silver-mine in the "plume trade," with the result that one of the greatest ornaments of our landscapes is apparently doomed to destruction.

It was a pretty sight in the spring to see a stretch of paddy-fields with the brilliant green of the young rice setting off the silvery white plumage of a number of Egrets as they stalked about in search of food. That, however, is now a thing of the past. Last year the natives got an inkling that money was to be made, and shot a good number of the birds. The prices realized astonished them, and this spring every man who could shoot at all was on the look-out. A terrible slaughter began on the arrival of the wretched Egrets, and continued, until from Suey Kao, 70 miles up river, to Hing hua, some 60 miles S. of Foochow, the country may be said to have been swept clean.

I will give you one or two cases only, of all the sickening details told of the massacre.

A "heronry" of *Herodias garzetta*, which used in summer to be a beautiful sight from the river, with the white plumage of the birds showing out in strong contrast to the dark green foliage of the two huge trees in which their nests were placed, has been entirely depopulated.

Further down river was a "heronry" of *H. garzetta* with a sprinkling of *H. eulophotes* in a village. The local mandarin put up notices warning people against molesting the birds. The "shooting-men," however, found out that the birds flew in a certain line down a narrow valley to their feeding-grounds. Selecting an afternoon with a stiff breeze that not only deadened the reports of the guns, but made the birds fly low, a party of five or six stationed themselves at the end of the valley, and shot down the whole colony. One of these men told me that the villagers were very angry because of the bad smell that arose from the *decaying bodies of the nestlings*.

A native caught lurking about with a gun near a "heronry" in the suburbs of the city was severely bambooed and had his gun confiscated by the mandarins. I asked the man who told me whether that would protect the birds. He said "No, we wait for them outside;" and added, with a chuckle, "they must come out to feed sometimes."

Of course here we cannot do anything in the matter, and it is doubtful whether the new Game Preservation Society started in Shanghai to prevent the export of Pheasants' skins, and which I understand intends to include *all* feathers in its field of work, will be able to do much good.

It is to the *civilized West* that one must look, and I fear look in vain, for help!

That it is a subject in which I know you take an interest must be my excuse for inflicting this lengthy document on you.

Yours &c.,
C. B. Rickett.

Foochow,
August 25th, 1899.

Sirs,—It may interest your readers to know that a female Yellow-billed American Cuckoo (*Coccyzus americanus*) was found lying dead at Craig-y-don, on the shores of the Menai Straits, on the 10th inst. It was in good condition, and I have had it placed in my collection.

I presume that it was brought over by the heavy westerly gales prevailing at the time. Apparently this is only the sixth instance of this bird having been found in this country.

Yours &c.,
Geo. Dickinson.

23 Abercromby Square, Liverpool,
November 16th, 1899.

The Pairing and Incubation of the Ostrich.—In reference to the vexed question of the mode of pairing and incubation of the Ostrich (see Ibis, 1899, p. 481), our attention has been called to the excellent article on this subject published by Mr. S. C. Cronwright Schreiner in the 'Zoologist' of 1897 (p. 97). Mr. Schreiner, who has had nine years' experience of Ostrich-farming in Cape Colony, shows most conclusively that the Ostrich is practically monogamous, one male and one female pairing and making the nest, both birds taking their share in the duties of incubation—"the hen sitting generally from 8 or 9 a.m. to about 4 p.m., and the cock from 4 p.m. to about 8 or 9 a.m."—and both parents taking charge of the young birds when hatched. The curious fact about the breeding-habits of the Ostrich is that there are "unattached hens" which, having no nests of their own, lay their eggs in the nests of other hens. But Mr. Schreiner's opinion is that this is altogether an irregular proceeding, and that in such cases the eggs are rarely hatched successfully.

Deaths of four Members of the B.O.U.—With very great regret we have to record the death of our friend and fellow-worker Dr. A. C. Stark, Member of the B.O.U., who was killed by a shell at Ladysmith on November 18th. Dr. Stark, who was in England all the past summer, went out to South Africa in September last, and, after staying a few days at Capetown, proceeded to Durban to continue his ornithological researches in Natal. When the British troops advanced to Ladysmith Dr. Stark volunteered to join the medical staff. About half-past seven on the evening of November 18th Dr. Stark was struck by a shell, when standing at the door of the Royal Hotel at Ladysmith, and killed almost instantaneously. Before he left England, Dr. Stark had passed through the press the sheets of the first volume of his work on the Birds which he had undertaken to write for Mr. W. L. Sclater's 'Fauna of South Africa.' We fear that it will be very difficult to find anyone to continue the work for which our much-lamented friend was specially competent from his long personal studies of the birds of South Africa in their native wilds.

With much regret we also have to record the loss of three other members of the British Ornithologists' Union since the issue of our last number—Hedworth Hylton, second Lord Hylton, who died on the 30th of October last; Mr. Thomas James Monk, who died on the 22nd of December last; and Mr. Edgar Leopold Layard, C.M.G., who died on the first day of the present year. Of Mr. Monk, as well as of our old and valued friend and coadjutor Layard, we intend to give notices in our next issue.

THE IBIS.

SEVENTH SERIES.

No. XXII. APRIL 1900.

XIII.—*Notes on Mashonaland Birds.*

By Guy A. K. Marshall, F.Z.S.

The ornithology of Mashonaland appears to have received comparatively little attention since our veteran ornithologist Mr. Thomas Ayres, of Potchefstroom, accompanied the Jameson expedition down the Umfuli river nearly 20 years ago, and I therefore venture to offer a somewhat fuller list of the birds of this country, as the result of intermittent observations since 1893. The list, however, does not profess to be by any means complete, for, apart from the fact that I am unable to obtain access to the necessary books of reference, it is evident that there must be a considerable number of species still unrecorded, owing to the limited area that has been thoroughly searched. But the present paper may, perhaps, be useful as a basis for future workers.

The great majority of the birds here mentioned have been obtained in the neighbourhood of Salisbury, which has been fairly well worked, thanks to the assistance of my friend Mr. C. F. M. Swynnerton, who has devoted a good deal of time to the subject during the past year. Apart from this, I made a small collection on the Middle Umfuli in 1895, and have also obtained a few examples about the township of Mazoë, some 25 miles north of Salisbury. In the other portions of Mashonaland which I have visited, I have merely made observations without being able to collect specimens. Considering the general configuration of the country, it cannot be considered as particularly rich in bird-life. As a whole, it is well watered and wooded throughout, and those large stretches of open treeless "veldt" which are found in so many parts of South Africa are here quite unknown; yet it is only in a few favoured localities that birds are really plentiful. A fact which must impress every observer is the way in which one may often walk for several miles through likely-looking country and scarcely see a bird; then suddenly one comes upon a troop of them, composed of Drongos, Tits, small Shrikes, Flycatchers, Warblers, and Buntings, keeping more or less together in a limited area. Personally I have little doubt that this may be attributed to the large number of birds of prey which occur here; so that the smaller birds find it advisable to associate as a means of protection, the Drongos acting as a sort of body-guard. My view is supported by the fact that the phenomenon is observed principally in the open forest which characterizes the greater part of the country; while, wherever the bush is more dense and affords better cover, the small birds are more generally distributed.

Owing to the pressure of other work, I have been unable to pay any special attention to nidification, and thus the majority of notes given on this subject are based on the observations of Mr. Swynnerton. My best thanks are due to Dr. R. Bowdler Sharpe for having worked out for me a collection of Salisbury birds sent to the British Museum in 1895, and a list of which was published in 'The Ibis' for 1896 (p. 241). I am likewise much indebted to Capt. G. E. Shelley for his kindness in furnishing me with much valuable information, including the identification of various specimens forwarded to him recently, and more particularly for revising the present notes prior to their publication.

1. Corvus capensis. (African Rook.)

These birds are seen commonly round Salisbury in small flocks, but are more numerous about the outlying homesteads, where they often do a good deal of damage to the farmers' crops. Unlike the European Rooks, they do not seem to be gregarious in their nesting-habits, although they will roost together in large numbers. Their food consists largely of insects, but they are also frugivorous, and when hard pressed I have even seen them eat carrion. Their flight is very much more laboured and cumbrous than that of the Crow. At times they fly in a very curious fashion, holding the wings well below the horizontal and fluttering them sharply, after the manner of the Bishop-birds. The eggs, which are four in number, are very variable, the ground-colour being either creamy white, dull purplish, or deep salmon-pink, with highly variable spots and blotches of reddish brown; the shape is also varied, the sides being sometimes distinctly compressed, with the narrow end very blunt, or the smaller end may be very rapidly narrowed from about the middle to quite a sharp point. Measurements (in millimetres): 42·5 × 28, 43 & 44 × 30.

2. CORVUS SCAPULATUS. (White-bellied Crow.)

This fine Crow is abundant throughout the country, and always to be found in some numbers about the towns, where it shares with the Vultures the dead oxen and donkeys. But it does not disdain meaner fare, and may be seen searching cattle-droppings for coprophilous beetles or performing the office of tick-pecker to the donkeys. In Natal I have known these Crows to kill young lambs, or even sickly sheep, usually commencing by pecking out the eyes. Although their flight is somewhat heavy, they will often soar to a considerable height, and are capable of performing really graceful evolutions. They are very fond of bullying the weaker Hawks, such as Kestrels and Harriers, and I have even seen a single one pursuing a Bateleur Eagle.

3. CORVULTUR ALBICOLLIS. (White-necked Raven.)

This is considerably scarcer than the preceding species, and I have rarely seen it in the immediate vicinity of Salisbury. It is, however, to be met with sparingly in most parts of the country, generally in pairs.

4. Oriolus notatus. (Andersson's Oriole.)

Not uncommon in the summer months, arriving about October. It is solitary in its habits, except for a short time after its arrival, when it remains in small flocks. Though certainly a wary bird, I have not found it so exceedingly shy as other observers appear to have done. Messrs. Sharpe and Layard state that *O. larvatus* is the only Oriole that breeds in South Africa; but *O. notatus* undoubtedly breeds in Mashonaland, and young birds with mottled breasts are fairly plentiful during January and February. I have little doubt the Golden Oriole (*O. galbula*) will also be found to occur in this country, and it may easily have been mistaken for the present species. The stomachs of Andersson's Orioles contained berries, beetles, and caterpillars.

5. Oriolus larvatus. (Black-headed Oriole.)

Common during the winter months, but, with the exception of a few pairs, it evidently goes south to breed, shortly after the arrival of *O. notatus*. It is a much less wary bird than the latter, generally feeding on low bushes, or even on the ground, when its method of searching for insects somewhat recalls that of the Helmet-Shrikes. Although fond of berries, it is mainly insectivorous, remains of beetles and large hairy caterpillars having been found in the stomachs of the examples examined.

6. Dicrurus ludwigi. (Small Drongo.)

I have observed only a single pair of this species on the Makabusi river close to Salisbury, but they would not permit me to get within gunshot.

7. Buchanga assimilis. (African Drongo.)

Common and universally distributed. It is a bold and quarrelsome species, ever ready to attack any other bird larger than itself, whether Crow, Hawk, or Owl. It has a considerable variety of cries, most of which, however, are somewhat unmusical. In its food it is essentially insectivorous, perching on some projecting twig, making short excursions thence, and returning to the same station.

It lives principally on orthoptera and coleoptera, which are usually taken on or near the ground. The nest is built in trees, from 10 to 20 feet from the ground, suspended in a horizontal fork, and loosely composed of fine twigs, roots, and fibres. The eggs are three in number, and of two types of colouring: (1) ground-colour either white or salmon-pink, with pale brownish-red blotches and spots and faint underlying grey markings, chiefly collected in a broad ring round the larger end; (2) ground-colour pure white, with scattered minute black spots forming a loose irregular ring round the larger end. The shape varies also, some specimens being equally thick at both ends (22 × 18 mm.), and others distinctly tapering (25 × 17 mm.).

8. EUROCEPHALUS ANGUITIMENS. (Smith's Wood-Shrike.)

I have seen a single example of this bird, shot on the Hanyani river, 12 miles south of Salisbury.

9. BRADYORNIS MURINUS. (Mouse-coloured Wood-Shrike.)

A specimen obtained at Salisbury in 1894 was identified by Dr. Bowdler Sharpe as belonging to this species. I have not observed it since.

10. BRADYORNIS MARIQUENSIS. (Marico Wood-Shrike.)

A common woodland species, though of solitary habits. It prefers the lower branches of trees, where it sits gazing pensively downward, ready to pounce on any passing insect, though its movements are generally listless. It frequently feeds on the ground, and when flushed its flight is remarkably Finch-like. On one occasion I saw no fewer than five of these birds with three Drongos, sitting on a low bush by an ants'-nest, out of which a swarm was rushing aimlessly about, as is their custom after rain, and every few moments one of the birds would drop in their midst, snatch up a few, and hastily retreat to its perch, always with a number of ants attached to its legs, for these insects are very pugnacious. So preoccupied were the Shrikes that they allowed me to come within three or four yards without taking any notice of me. Stomachs contained ants, caterpillars, and beetles.

11. Prionops talacoma. (South-African Helmet-Shrike.)

Not uncommon throughout the year in wooded localities, occurring in flocks of from six to twelve. They are indefatigable insect-hunters, searching for their prey close to or even on the ground. They are by no means shy, and may be readily approached. The flight is sustained only for a short distance, and a subdued but very pleasing call is frequently uttered, being generally started by one individual and at once taken up by the whole flock. The gizzards examined contained orthoptera and coleoptera.

12. Sigmodus retzii. (Retzius's Helmet-Shrike.)

I observed a pair of these birds in a flock of the preceding species at Mazoë last Christmas, but unfortunately failed to secure one. Mr. Ayres met with a few on the Umfuli river.

13. Graucalus pectoralis. (Black-breasted Cuckoo-Shrike.)

Though generally distributed, this bird is by no means plentiful, being met with only singly or in pairs. When undisturbed it moves very leisurely, but on being frightened it takes a low swooping flight, though for no great distance, rising as it settles; thus recalling the Little Grey Goshawk (*Astur polyzonoides*), for which I have occasionally mistaken it. On the Umfuli river I obtained a female agreeing with the description in having the throat white, succeeded by a narrow crescent of clear grey, but I have never seen one with this colouring round Salisbury. I have in my collection a specimen, sexed as a female, which is coloured exactly like the male; moreover, if my memory serves, in all the pairs I saw last breeding-season both birds were coloured alike, and Mr. Swynnerton is of the same opinion. This Shrike is a very silent bird, only occasionally giving vent to a short, low whistle. In the stomachs examined I found locusts, grasshoppers, and beetles.

14. Campophaga nigra. (Black Cuckoo-Shrike.)

Known to me by a single specimen only. The resemblance to the Common Drongo is so great that I passed over the bird, even after a hasty glance through the binoculars, but on returning to the spot I was struck by the difference in its habits as it crept about in the undergrowth on a large termite-heap, and then recognized it as the present species. I can hardly doubt that this is a case of mimicry, for its resemblance to the fearless, bullying Drongo must be of great service to so feeble a bird, and there is a parallel instance in India in the Drongo-Cuckoo (*Surniculus lugubris*). The stomach contained a grasshopper, three small caterpillars, and two spiders.

15. Pachyprora molitor. (White-flanked Flycatcher.)

Very common throughout the year, especially in mosasa-bush. The birds are usually seen in pairs, passing from tree to tree, diligently hunting for small insects of all kinds, and rising now and then to capture some flying beetle with a loud snap of the beak. They have several calls, some being rather harsh, but the most characteristic consists of three pleasant notes on a falling scale, uttered slowly one after the other.

16. Muscicapa grisola. (Spotted Flycatcher.)

Only a single example of this common European migrant has come under my notice.

17. Pratincola torquata. (South-African Stonechat.)

Abundant throughout the year, frequenting low bushes in open country, especially along streams. Gizzards contained small beetles and ants.

18. Hyliota australis. (Mashona Flycatcher.)

A common resident, frequenting the open forests of mosasa-trees (*Brachystegia*), which afford a plentiful supply of small phytophagous beetles, especially during the spring months. It is by no means shy, as it diligently and methodically searches the twigs of the low trees and bushes, uttering its short call at intervals.

19. Terpsiphone perspicillata. (Paradise Flycatcher.)

These elegant little birds are not uncommon in the denser parts of the bush, and are occasionally met with in parties of five or six, when their graceful gambols are very pretty to see, though their cries are harsh. Their food consists principally of flies, beetles, and flying termites, and they would appear to be at least partially migratory, for I have not yet met with them during the winter months.

20. PHYLLOSCOPUS TROCHILUS. (Willow-Warbler.)

Not uncommon, arriving from the north about October and leaving in April.

21. GEOCICHLA LITSITSIRUPA. (South-African Thrush.)

Not common, being generally found in small parties in the more secluded parts of the bush, where it seeks its food upon the ground. The stomachs examined contained grasshoppers, pentatomid bugs, and beetles.

22. TURDUS LIBONYANUS. (Kurrichaine Thrush.)

This bird is very scarce in the open forests, but wherever small streams overshadowed on either side by a line of dense bush occur it is not uncommon. Yet in such localities it is very difficult to obtain, as it is a wary bird and dives into the densest thickets at the least sign of danger. It feeds almost exclusively on the ground, eating coleoptera, caterpillars, grasshoppers, small millepedes, and even seeds. It has a short mellow song.

23. MONTICOLA ANGOLENSIS. (Angolan Rock-Thrush.)

This species, which has been identified by Capt. Shelley, has not been previously recorded from south of the Zambesi, though it is evidently resident here. It is not very common, being purely sylvan in its habits, feeding on the ground in the open bush, and taking to the trees immediately it is disturbed. The first specimen I obtained was a male, which was singing pleasantly at the summit of a tall tree. As a rule, this species appears to be solitary, but later in the season family parties of four or five may be seen, feeding on beetles, beetle-grubs, locusts, and ants.

In 1894 I shot an example of another species of Rock-Thrush at Salisbury, but could not then identify it, and unfortunately the skin could not be preserved.

24. Saxicola pileata. (Capped Wheatear.)

This Wheatear is plentiful as a migrant in our winter, arriving from the south in the end of May or beginning of June, nesting early in September, and departing southward about November. It frequents open country, sitting on termite-heaps or low bushes, but I have occasionally observed it on trees in the bush. The male is a delightful songster, usually singing as he hovers on quivering wings a few yards from the ground; he is fond of displaying himself before the female, running round her, bowing and scraping, drooping his wings and spreading his tail so as to show his pure white rump. This species breeds in holes in termite-heaps, and the food consists principally of ants and small beetles.

25. Pycnonotus layardi. (Layard's Bulbul.)

Everywhere abundant, feeding on fruits and berries of all kinds, and being especially fond of the wild fig. Besides mobbing Hawks, as noted by Mr. Ayres, these birds will also worry tree-snakes, gathering round them and making a great din, just as fowls will do. The eggs are three in number, of a pinkish-white colour, variegated with large blotches of rich purplish brown and iron-grey, which are denser at the thick end. The size is variable, as may be seen from the following selected measurements:—21 × 17, 27 × 18, 24 × 18, 25 × 17 mm.

26. Cossypha heuglini. (Heuglin's Chat-Thrush.)

Obtained by the Jameson expedition on the Umfuli river. I have not infrequently caught glimpses of birds of this genus, and probably this species, in the dense thickets along some small streams near Salisbury, but they are very wary, and I have so far failed to obtain one.

27. Thamnolæa cinnamomeiventris. (White-shouldered Bush-Chat.)

This is a somewhat scarce and very local species, being only found among the picturesque kopjes of granite boulders so characteristic of many parts of Rhodesia. It is a sprightly bird, ever on the move, and incessantly jerking its tail up and down as it runs rapidly about the rocks, among the inaccessible crevices of which it builds its nest. It is one of the finest song-birds we possess, both sexes having full, rich notes. It remains here throughout the year and feeds on beetles, ants, and the larvæ of ant-lions.

In the paper in 'The Ibis' mentioned above (1896, p. 242), this bird was referred to the subsp. *T. subrufipennis* Reich., but Capt. Shelley, who has kindly examined the specimens sent to the British Museum, tells me they are typical *T. cinnamomeiventris.*

28. Thamnolæa shelleyi. (Shelley's Bush-Chat.)

I observed several specimens of this fine Chat alighting on trees and stumps round the settlement at Hartley Hills, on the Umfuli, in July 1895, but have not seen it elsewhere.

29. Schœnicola apicalis. (Fan-tailed Reed-Warbler.)

This curious little bird is not uncommon among the long grass and reeds in swampy places about Mazoë and Salisbury. Its flight is very weak and jerky, and it looks as though it were weighed down by its big broad tail, which is out of all proportion for so small a bird.

30. Calamonastes fasciolatus. (Barred-breasted Fantail.)

This species is not very common, being somewhat secluded in its habits. It frequents low scrub, searching for small insects on the ground at the foot of the bushes, and is often difficult to flush.

31. Apalis sp. inc.

Mr. Swynnerton has obtained a single example of this species, which resembles *A. thoracica* in its general colouring, but has the vent lemon-yellow instead of rufous brown. He subsequently saw another example near Salisbury, and I observed one at Mazoë.

32. Sylviella rufescens. (Short-tailed Bush-Warbler.)

A generally-distributed resident, but not very common. It frequents low trees, about which it creeps actively, searching for insects on the branches and leaves.

33. Eremomela flaviventris. (Yellow-bellied Bush-Warbler.)

Fairly common in the open forests, where it searches the trees for small insects, in company with the Tits and White-eyes, which it closely resembles in habits.

34. Eremomela scotops. (Dusky-faced Bush-Warbler.)

Common; they occur in flocks of five to twenty individuals, and every now and then they commence a terrible hubbub, the whole flock apparently fighting and chasing one another round and round the trees with a harsh chattering note; in a few minutes the noise subsides, as they gradually settle down again to the business of insect-hunting, only to recommence quarrelling shortly afterwards.

35. Prinia mystacea. (Tawny-flanked Grass-Warbler.)

Fairly common, occurring occasionally among trees in thin bush as well as in the open grassy flats. The following is the description of the nest and eggs by Mr. Swynnerton:—"A neat domed nest, slung between the stems of two or three weeds at the water's edge, after the fashion of the English Reed-Warbler, and built almost entirely of a fine downy water-weed and a few thin grass-blades. The cup, which is very deep, was lined with very fine grasses, and contained four eggs, two measuring 17 × 12 and two 18 × 12 mm. The ground-colour of the eggs is pale salmon-buff, marbled and clouded with a deeper shade of the same colour, with blotches and curious pencillings (chiefly in circles round the egg) of different shades of reddish brown, nearly reaching black in intensity in places.

36. Cisticola cinerascens. (Grey Fantail.)

This species does not seem to be so plentiful as the other Fantails, and, as a rule, occurs only in the bush.

37. Cisticola aberrans. (Smith's Fantail.)

Obtained on the Umfuli river by the Jameson expedition.

38. Cisticola terrestris. (Ground-Fantail.)

Common in open grassy flats. In proportion to its size this bird has a decidedly stronger flight than any of its congeners; it will sometimes rise to a considerable altitude in a jerky erratic manner, making at intervals a loud snapping noise with its wings, which can be heard at a considerable distance, even when the bird is almost out of sight. It makes a beautiful little nest of spiders'-web and white down, in the shape of a long bag, open at the top, and attached at the sides to stems of long grass, which are drawn together all round, and thus conceal it. The eggs are usually four or five in number, but a nest I found at Estcourt, Natal, and off which I caught the female in a butterfly-net, contained seven; six of these being of the normal colour, white with rusty-brown blotches and underlying spots of purplish grey, while the seventh was white sparsely covered with small black spots.

39. Cisticola natalensis. (Natal Fantail.)

A solitary bird, but fairly common, both in the open veldt and in bush, though preferring the former where the grass is long.

40. Cisticola subruficapilla. (Grey-backed Fantail.)

This species is the commonest of the genus round Salisbury, occurring right in the town and breeding in the small bushes that grow on the termite-heaps. The nest is fairly substantial, formed of woven grass, domed and with a slight porch; the outside is often bound with spiders'-web, and it is thickly lined with white down. The eggs are usually four in number and of a pale blue colour, with numerous small freckles and spots of rich purplish brown and pale yellowish brown, and underlying spots of violet-grey; the markings are chiefly confined to the larger end, often forming a zone, and occasionally a distinct cap. If the nest is disturbed the birds will often remove the eggs.

41. Pinarornis plumosus. (Sooty-brown Chat-Thrush.)

Mr. Ayres observed only two examples of this rare bird on the Umfuli river.

42. Crateropus jardinii. (Jardine's Babbling Thrush.)

These noisy and restless birds are found commonly along all the streams in the country in flocks of six or eight, but they also occur among rocky kopjes at some distance from water wherever there are thickets sufficiently dense to suit them. Their almost incessant harsh chatter becomes very wearisome after a time. They feed entirely on the ground, scratching noisily among the reeds or undergrowth. The stomachs examined contained chiefly ants, but also a few beetles and crickets.

43. Parus afer. (South-African Tit.)

Not uncommon in the mosasa-bush; it closely resembles the European Great Tit in general habits.

44. Parus niger. (Black-and-White Tit.)

Noticeably scarcer than the preceding species, which it resembles in habits, though I have occasionally noticed a pair hawking for insects in the air, just like Flycatchers.

45. Parus pallidiventris. (Pale-bellied Tit.)

This species, which has not previously been recorded to the south of the Zambesi, was kindly identified for me by Capt. Shelley. I shot one of a pair in August 1898 on a farm nine miles east of Salisbury, and subsequently observed another pair in October in the same locality, these being the only examples which have come under my notice. In both cases they were busily engaged in searching the young shoots of mosasa-trees for phytophagous beetles in true Tit-fashion, occasionally uttering a loud churring call, very similar to that of *P. niger*.

46. Ægithalus caroli. (Andersson's Penduline Tit.)

This little bird is not uncommon, but seems to be more in evidence during the winter months. Three or four individuals are usually found together assiduously investigating low trees and bushes, but they are especially fond of several kinds of very tall flowers, on which they find an abundance of minute insects. I have heard only a faint chirping note uttered.

47. Telephonus erythropterus. (Cape Red-winged Bush-Shrike.)

Recorded by Mr. Ayres from the Umfuli, but I have not yet succeeded in recognizing the species*.

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* [Probably the same as *T. senegalus*, the next species.—Edd.]

48. Telephonus senegalus. (Common Red-winged Bush-Shrike.)

A plentiful resident, being generally found in pairs in the denser parts of the bush. It is fond of lurking on the ground among the thick shrubs growing on large ant-heaps, but takes at once to the trees when startled; the tail being broadly expanded in flight, which is of short duration. It has several harsh cries, but also utters a pleasing song, consisting of eight mellow notes, and one of its calls reminds one pleasantly of the alarm-chuckle of our Blackbird. Its food consists of beetles, grasshoppers, spiders, &c.

49. Laniarius guttatus. (Pied Bush-Shrike.)

A common resident species, though more often heard than seen, on account of its skulking habits. It is especially partial to the dense growth along streams or the thickets on giant termite-heaps, such as are to be found along many of the rivers, and it is a matter of some difficulty to dislodge it from such positions. It is a thorough "duellist," like all its congeners, for the harsh "where, where!" of the female is answered with scarcely an intermission by the deep, ringing "here, here!" of the male; a very loud note, like "chk," or, again, a long drawn-out "mope," is also repeated at intervals. The stomachs of the birds examined contained beetles and moths.

50. Dryoscopus cubla. (Lesser Puff-backed Bush-Shrike.)

Not uncommon, but preferring the taller trees, among which the loud "tk, whí-w" of the male is a very familiar sound. It hunts energetically for insects among the leaves, also catching them on the wing; and, unlike Mr. Ayres, I have found it very far from shy or retiring in its habits. It makes a loud and characteristic whirring noise when flying.

51. Malaconotus blanchoti. (Blanchot's Bush-Shrike.)

A single specimen of this shy bird has been shot by Mr. Swynnerton, and only one pair was met with by

Mr. Ayres on the Umfuli. The stomach of the former bird contained beetles and locusts, and Mr. Ayres notes that the crop of his bird contained a small mouse.

52. Malaconotus sulphureipectus. (Yellow-fronted Bush-Shrike.)

This scarce bird was also obtained on the Umfuli river by Mr. Ayres.

53. Nilaus capensis. (Brubru Bush-Shrike.)

A generally distributed resident, but nowhere very common, being found singly or in pairs searching the trees for insects, in company with other small birds.

54. Urolestes melanoleucus. (South-African Long-tailed Shrike.)

Not uncommon, though local, being usually found in flocks of four to eight. They are noisy birds, having a very harsh cry, and are fond of sitting in elevated positions, whence they pounce on their prey, which is often captured on the ground. I have found in their stomachs beetles, locusts, and the soldiers and workers of a very large termite.

55. Lanius collaris. (Fiskal Shrike.)

This well-known bird does not seem to be nearly so plentiful in this portion of Mashonaland as in other parts of South Africa.

56. Lanius collurio. (Red-backed Shrike.)

A fairly common migrant, arriving about October, breeding with us, and leaving again in April. It is a solitary species, sitting on low bushes in open country, especially in the vicinity of streams. It has been observed to feed on beetles and the large females of Carebara ants.

57. Salpornis salvadorii. (Salvadori's Creeper.)

Distinctly scarce, and I have seen only single individuals at some intervals. It searches the bark of trees for insects, much like the European Tree-creepers, commencing at the foot and rapidly working its way up, then flying on to the next tree.

58. CINNYRIS CHALYBEA. (Lesser Double-collared Sun-bird.)

This is the commonest of our Sun-birds, and, like the others, it is most abundant towards the close of the dry season, when the yet leafless kafirbooms (*Erythrina*) are ablaze with their scarlet flowers, which seem to afford a special attraction to these birds. It is a familiar and fearless species, and capable of singing very sweetly. The nests, though often suspended, are more frequently supported by twigs.

59. CINNYRIS OLIVACEA. (Olive Sun-bird.)

This seems to be rather scarce, but may have been overlooked among the females of its gaudier relatives. Apart from a solitary female in my collection, I have observed only a pair, which were feeding on the flowers of a *Eucalyptus* in the town and allowed an approach within a few yards. My specimen measured 4 inches from the tip of the tail to the base of the beak, the latter being 10 lines in length.

60. CINNYRIS GUTTURALIS. (Scarlet-chested Sun-bird.)

This fine bird is not nearly so plentiful as *C. chalybea* and *C. kirki*, and seems to absent itself from about January to June, though perhaps it may be that the male loses his fine plumage during this period. The nest is generally supported by small twigs 10 or 15 feet from the ground, and is somewhat untidy in appearance, being almost identical with that of *C. chalybea*; it is domed and porched, and is composed of grass-fibres intermixed with down and a few dead leaves, the whole being bound together with spiders'-web, and the inside lined with fine grass and down. The eggs (19 × 14 mm.) are two in number, of a pale olive ground-colour, spotted, streaked, and pencilled with dark vandyke-brown and with large pale underlying splashes and blotches, some of the markings being collected in an irregular zone round the larger end, and occasionally a good deal suffused. I do not recollect hearing this species sing, but it utters a very loud chirp, often with almost monotonous iteration.

61. Cinnyris kirki. (Eastern Amethyst Sun-bird.)
This little species is almost as plentiful as *C. chalybea*, and, like that species, the male seems to retain its plumage throughout the year. The nest, usually suspended from a twig, is made of much the same materials as those used by the preceding species, but it is much more neat and compact, with less spiders'-web. The eggs (17 × 12 mm.) are pale greenish grey, clouded streakily with very pale olive, which almost obscures the ground-colour.

62. Zosterops anderssoni. (Andersson's White-eye.)
Common at all seasons, busily searching the trees for insects, either in pairs or in family parties of five or six.

63. Chelidon urbica. (House-Martin.)
Only observed by Mr. Ayres in October on the Rwerwe river. In connection with this name it may be mentioned that the Zulu "r" is pronounced like the German "ch."

64. Cotile cincta. (Collared Sand-Martin.)
This is the only Sand-Martin that I have succeeded in identifying. It is fairly common, occurring in small flocks in the neighbourhood of water. Like most of this family, it arrives about the second week in September, leaving again in the end of March or beginning of April.

65. Hirundo rustica. (European Swallow.)
Fairly common. Although Andersson has recorded this species as breeding in Damaraland, I am not yet aware that it does so in this country.

66. Hirundo dimidiata. (Pearly-breasted Swallow.)
Plentiful, this being the only Swallow that remains with us the whole year round.

67. Hirundo griseopyga. (Ashy-backed Swallow.)
Mr. Ayres met with this species on the Rwerwe river, but says it was not common.

68. Hirundo cucullata. (Larger Stripe-breasted Swallow.)
This well-known species would appear to be somewhat

scarce, at all events in the Salisbury district, as I have observed it on but few occasions.

69. Hirundo puella. (Lesser Stripe-breasted Swallow.) Not uncommon, breeding among the granite kopjes near Salisbury.

70. Hirundo semirufa. (Red-breasted Swallow.) Not very common, and generally seen in pairs. It is the only species which I have yet observed nesting on buildings in the town.

71. Motacilla vidua. (African Pied Wagtail.) This resident species is common along the larger rivers, such as the Hanyani and Umfuli, but is very scarce round Salisbury. It seems to be more solitary in its habits than the other Wagtails.

72. Motacilla capensis. (Cape Wagtail.) Everywhere abundant, occurring near water in flocks varying from three or four up to 20 individuals. I found both this and the preceding species nesting in tussocks of grass in the middle of the dry bed of the Umfuli, and there must have been a considerable destruction of young birds when the river came down with a 4-foot wall of water a week later. Although a resident, it appears to be considerably more numerous during the summer months.

73. Motacilla campestris. (Ray's Yellow Wagtail.) This is a migratory species, but is somewhat erratic in its appearance. I have seen it as early as October, but this season it did not appear until the 26th January, perhaps owing to the drought in the early summer. It is more often to be seen in the town than the other species, feeding round the puddles in the streets, generally in pairs.

74. Anthus pyrrhonotus. (Cinnamon-backed Pipit.) Everywhere abundant in the open veldt, but also to be found frequenting trees in open bush.

75. Macronyx capensis. (Cape Long-claw.) This handsome Pipit is generally distributed throughout the open country, but is nowhere plentiful, being found only

singly or in pairs. The tail is fully expanded in flight, as the bird rises with its loud mewing cry. In the stomach of one bird I found four grasshoppers, one reduviid bug, and a number of beetles.

76. Petronia petronella. (Yellow-breasted Sparrow.) Abundant at all seasons in bush-country. They occur in small flocks, feeding principally on the ground, though they will occasionally search trees and low bushes for insects like Tits; they also eat seeds, buds, &c. The true Sparrows (*Passer*) do not appear to have been met with in Mashonaland up to the present.

77. Poliospiza gularis. (Streaky-breasted Grosbeak.) I obtained a single specimen at Salisbury in 1894, and do not recollect having seen the species since.

78. Serinus flaviventris. (Yellow-bellied Canary.) Common, congregating in considerable flocks during early winter. Like all its congeners, it has a sweet and well-sustained song.

79. Serinus angolensis. (Black-throated Canary.) Not nearly so common as the preceding, which it resembles in general habits.

80. Serinus icterus. (Golden-rumped Canary.) Occasionally met with in small flocks on the Umfuli river by Mr. Ayres.

81. Emberiza orientalis. (Shelley's Bunting.) On one occasion in the winter of 1898 I came across a small flock of these birds near Salisbury, but had no gun with me; the only other example I met with was one I shot on the Hanyani river the following September. This was identified by Capt. Shelley, who tells me that the species had not previously been received from the south of the Zambesi.

82. Emberiza flaviventris. (Golden-breasted Bunting.) Not uncommon in woodland country, occurring either singly or in small flocks of five or six individuals. It feeds entirely on the ground, and will often permit one to approach within a few feet of it before rising, when it flies for only a

short distance, dropping abruptly into the grass again. It is probably mainly graminivorous, but beetles and large green caterpillars have also been observed in the stomachs examined.

83. Fringillaria tahapisi. (Rock-Bunting.)

Fairly common, resembling *E. flaviventris* in habits except that it takes more readily to trees when flushed; it is apparently more strictly graminivorous, the only insect found in four specimens being a single melolonthid beetle.

84. Dilophus carunculatus. (Wattled Starling.)

These wandering birds are very erratic in their appearance, arriving in small flocks, remaining about for a few weeks, and then going off again. I have noticed them chiefly in winter and early spring. Although locust-swarms have been more or less prevalent in Mashonaland for the last six years, I have never seen them being systematically attacked by these birds, and during the visits of the Starlings last year there were practically no locusts about at all. It is also worth noting that I have not even heard of the occurrence here of *Glareola melanoptera* Nordm., which is the species best known as the "Locust-bird."

85. Pholidauges verreauxi. (Verreaux's Glossy Starling.)

I first met with this lovely species on Umfuli river, but it was decidedly scarce there, an occasional pair only being met with; during September and October 1898, however, they visited Salisbury in some numbers to feast on the spring crop of wild figs, which attract a number of frugivorous and insectivorous birds. Their cries are somewhat harsh, but the male frequently utters a very sweet, plaintive whistle.

86. Lamprocolius sycobius. (Peters's Glossy Starling.)

Abundant at all seasons, often congregating in considerable flocks. They live almost entirely on fruits and berries, but may occasionally be seen feeding on the ground, apparently picking up insects.

87. Buphaga africana. (African Oxpecker.)

This well-known bird is fairly common in most parts of

Mashonaland, though I have seen but few round Salisbury. Mr. J. G. Millais has given an admirable account of the species in his magnificent book 'A Breath from the Veldt.'

88. Vidua principalis. (Common Widow-bird.)

A fairly common resident, occurring in small flocks in open country near streams and swamps, and feeding on grass-seeds.

89. Penthetria ardens. (Red-collared Widow-bird.)

This species is only to be found in large reedy swamps, where, however, it is fairly plentiful, though very wary. The male, when showing off, expands the feathers of his curiously-constructed tail vertically, so as to make it appear as deep as possible. He is very much like a small edition of the Sakabula (*Chera progne*), a bird, however, which does not appear to occur within the tropics. Stomachs contained seeds and small beetles.

90. Pyromelana oryx. (Scarlet Bishop-bird.)

Very local, but plentiful wherever large reed-beds are found. There are few prettier sights than the male in his courting flight, floating with feathers puffed up and quivering wings over the green reeds, a living ball of black and scarlet plush. Its stomachs contain seeds, small beetles, and an occasional spider.

91. Pyromelana xanthomelæna. (Black-and-Yellow Bishop-bird.)

Much more generally distributed than *P. oryx*, and not so much attached to the reed-beds, but occurring anywhere along streams and rivers, though I have even found it perching on trees at a considerable distance from water. The nest is generally suspended from a twig over water, and roughly but strongly built of coarse grass, the seed-heads of which are ingeniously twisted into the interior of the nest, so as to form a deep soft lining. The eggs ($24\frac{1}{2} \times 16\frac{1}{2}$ mm.) are of a bluish-green colour, handsomely marked with surface-blotches of both dark and light brown, and underlying patches of violet-grey.

92. Ortygospiza polyzona. (Little Barred-breasted Finch.)

I have noticed this little bird only during the winter months, when it may be seen in considerable flocks in open spaces about the town. It is very tame, allowing approach within a few feet; but even then there is difficulty in detecting it on the ground, owing to its protective upperside colouring and diminutive size. It feeds on grass-seeds.

93. Lagonosticta jamesoni. (Jameson's Ruddy Waxbill.)

I first noticed these pretty little birds in November 1897, there being a few flocks along the river and among the granite kopjes close to Salisbury, but they disappeared shortly afterwards. In general habits they resembled the Common Waxbill.

94. Estrilda astrild. (Common Waxbill.)

Occurs plentifully, sometimes in very large flocks, along rivers and on cultivated lands.

95. Estrilda angolensis. (Blue-breasted Waxbill.)

Though common along the Umfuli, this Waxbill is scarce near Salisbury, usually occurring in pairs. I have not found its nest in Mashonaland, but in Natal it builds in mimosa-bushes, making a rough unlined nest of fine grass, with an entrance at the side. An interesting fact is that the nest is almost invariably placed in close proximity to, or even touching, one or more of the hanging nests of a powerful social wasp (*Belenogaster rufipennis*), as though the bird were aware that these would form an admirable protection against many enemies. The eggs are pure white, and measure 15×11 mm.

96. Anaplectes rubriceps. (Red-headed Weaver.)

This handsome species is common about Salisbury, occurring in pairs in the bush, where it searches the trees and bushes assiduously for insects, often hanging back downward, like a Tit. It is very partial to the social spiders (*Stegodyphus*), and I once watched a bird pecking away at a spider's nest for over half an hour, during which time it managed to unearth only four of the inmates, as the nest-material is very tough. The nests of this Weaver are retort-shaped, with a moderately long neck, and much more roughly constructed than those of *Hyphantornis*; they are suspended from the outermost twigs of trees in the bush, far away from water. The eggs are pale greenish blue, and measure 20 × 15 mm.

97. Hyphantornis nigriceps. (Black-headed Weaver.) I have seen this bird only on the Umfuli river, where it was fairly common in small flocks, searching the trees for insects.

98. Hyphantornis velatus. (Black-fronted Weaver.) Fairly common round Salisbury, nesting among the granite kopjes at some distance from water.

99. Hyphantornis xanthops. (Golden-faced Weaver.) This fine species is by no means common; I have seen it on the Hanyani and Umfuli rivers, and it occurs sparingly along the streams near Salisbury.

100. Tephrocorys cinerea. (Rufous-capped Lark.) Everywhere abundant in open country. It is a fearless little bird, frequenting the open spaces in the town, and readily permitting a very close approach. During the courting-season the male has a very pretty way of rising; after first flying up he will swoop downward a short distance, then rise abruptly straight upward for several feet with closed wings, turning gently over and swooping down and up again several times in succession, then fluttering away skyward, singing sweetly all the while. In the end of winter these birds congregate in flocks, which sometimes contain as many as 200 or 300 individuals.

101. Mirafra fischeri. (Fischer's Bar-tailed Lark.) A few of these birds were met with by Mr. Ayres along the Umfuli. Although I have never shot it, I am pretty certain I have recognized it as a fairly common species round Salisbury, its curious cracking flight being very characteristic.

102. Mirafra africana. (Rufous-naped Lark.)

Generally distributed, though nowhere plentiful, often frequenting the vicinity of houses in the town. It is a solitary bird, fond of settling on the top of some low bush, where it will remain for a long time, uttering its three-note call with a perseverance worthy of a better cause. When disturbed it goes off with a low fluttering flight, either alighting on the next convenient bush or dropping to the ground, when it runs like a rat. One bird will sometimes frequent the same post for many weeks.

103. Upupa africana. (African Hoopoe.)

This bird is not uncommon in the bush round Salisbury. It is generally solitary in its habits, but during the early spring it congregates into small flocks of five or six. It feeds chiefly on the ground, but also searches tree-trunks for insects; the stomachs examined contained grasshoppers and beetles.

104. Irrisor viridis. (Red-billed Wood-hoopoe.)

Though very scarce in the neighbourhood of the town, these handsome birds are fairly plentiful in the larger bush near the Hanyani and Umfuli rivers, occurring in flocks of six to twelve, and ever industriously searching the tree-trunks for insects, &c., in the crevices of the bark. I first made the acquaintance of these Wood-hoopoes in the dense and desolate bush-country along the Brak river in the Northern Transvaal, when I had managed to lose myself in the bush—a by no means difficult performance in those parts—and owing to its being a very cloudy day I could not obtain any bearings. Thinking that I might have been walking in a circle, and might still be somewhere near our outspan, I endeavoured to shout, as I had no gun wherewith to signal; but every time I attempted to raise my voice a troop of these wretched birds would promptly join in and drown it. The exasperating effect of this on a man who has just realized that he has hopelessly lost his bearings in an almost waterless country may be more easily imagined than described, and I have never quite forgiven the "Kackela" for that *mauvais quart d'heure*.

105. Rhinopomastes cyanomelas. (Scimitar-billed Wood-hoopoe.)

Very much scarcer than the preceding, and differing from it in that it occurs only in pairs, and also it not infrequently descends to the ground in pursuit of its prey, whereas I have never seen *Irrisor viridis* on the ground. The present species has also a much more graceful floating flight. The stomachs contain diptera, reduviid bugs, and occasionally cteniform spiders, and wasps.

106. Cypselus apus. (Common Swift.)

Mr. Ayres notes this species from the Umfuli in September and October, which seems to be the usual time of their arrival. Last season, however, I saw a few apparently passing over in October, but observed no more till the end of January, when a large flock arrived, remained for a few days, and then disappeared.

107. Cypselus caffer. (African White-rumped Swift.)

Seen in Mashonaland in September and October by Mr. Ayres.

108. Caprimulgus rufigena. (Rufous-cheeked Nightjar.)

A common species; the stomach of one specimen contained 14 examples of a coprophilous beetle—*Onthophagus gazella* F.

109. Caprimulgus fossii. (Foss's Nightjar.)

Almost as common as the preceding, but more often found among rocks and about the large termite-heaps. An immature Nightjar in my collection may perhaps be referable to *C. pectoralis* Cuv.

110. Cosmetornis vexillarius. (Standard-winged Nightjar.)

This singular bird is fairly common in most parts of the country, being especially partial to rocky wooded kopjes. The male assumes his long wing-feathers as early as August, generally losing them about December. The eggs, two in number, are laid on the bare ground, and are pinkish white, with rusty brown spots and blotches, which are thicker at the larger end. The food consists chiefly of crepuscular beetles.

111. Coracias garrulus. (European Roller.)

Mashonaland is well supplied with Rollers, or "Blue Jays" as they are locally called, all the South-African species being found within our limits. The present is our only migrant, arriving from the north about September and leaving early in April. It has been fairly plentiful round Salisbury this season, and probably breeds here, as young birds have been observed in January and February. It is fond of sitting on the summit of isolated trees in fairly open country, especially along streams, and is noticeably tamer and less active than *C. caudatus*, permitting approach within gunshot with comparative ease. Stomachs contained only beetles.

112. Coracias caudatus. (Lilac-breasted Roller.)

This lovely bird is perhaps the commonest and most generally distributed species of the genus in this part of South Africa; it is, moreover, much the most wary, being very difficult of approach, sitting on the topmost twigs of the highest trees in the vicinity of rivers and making off with discordant screams at the first sign of danger. During the breeding-season it (presumably the male bird) will mount to a considerable height with its curious rolling flight, rising in stages and screaming all the while, then suddenly turning over and diving straight down.

I took a nest of this species at the Umfuli on the 24th October, 1895. It was in a hole in a tree, about 20 feet from the ground, and contained three white eggs, moderately incubated; two of these were nearly spherical, the third being very pointed at one end—much like a Plover's egg in shape. The stomachs of this bird usually contain small crabs, locusts, mantides, and beetles (including *Anthia pachyoma*). The occurrence of the last-named insect is of much interest, as it is capable of ejecting a considerable quantity of a powerful acid.

113. Coracias spatulatus. (Racquet-tailed Roller.)

This species appears to be very local, occurring only among the heavier timber which grows in the vicinity of the larger rivers. At Gadzima, on the Umfuli, I found it fairly common, and observed it again on the Hanyani, some 12 miles south of Salisbury; it also occurs sparingly about Mazoë. In some ways its habits are notably different from those of its congeners. It is never found sitting on the summits of trees at the outskirts of the bush, but only on the lower branches further within; it is comparatively tamer; and its courting gambols are also distinct, for it will fly with a very rapid zigzag for some distance, and then suddenly shoot straight up into the air for 15 or 20 feet with closed wings, curving gently over and down again head foremost, screaming all the while. *C. spatulatus* is quite as quarrelsome as *C. caudatus*, and even more noisy; I can only compare its cries to the yelping of a litter of puppies. Stomachs contained grasshoppers, with beetles and large fly-maggots, evidently taken from carrion.

114. Coracias olivaceiceps. (Olive-headed Roller.)

This clumsy and comparatively dull-coloured bird is generally distributed, but never plentiful, being even more solitary in its habits than the other species. Like the first two, it is fond of sitting on elevated situations and pouncing thence on its prey in a Shrike-like manner. It is rather more lethargic than the others, but its courting flight is practically the same as that of *C. caudatus*. The stomachs contained beetles, scorpions, and several kinds of locusts, including a gaudily-coloured species which emits a very strong and unpleasant odour.

115. Eurystomus afer. (Yellow-billed Roller.)

Much the scarcest of our Rollers, and I have only seen a few specimens along the Umfuli, where I observed a pair breeding in a hole in a tree close to my camp. It is wilder even than *Coracias caudatus*, which it much resembles in its general habits.

116. Dicrocercus hirundinaceus. (Swallow-tailed Bee-eater.)

Not very common, and, unlike the other Bee-eaters, it does not appear to frequent the river-banks, but occurs in small parties of three or four, settling on low trees and bushes in the open forest, far from water. I have never seen it flying high in the air, like the larger species. Stomachs contained grasshoppers and hymenoptera.

117. Melittophagus meridionalis. (Little Bee-eater.)
A common resident species, always found in proximity to water, generally in pairs, but occasionally in small flocks. Its flight is low and rarely sustained for any great distance, it being a fearless little bird. Stomachs contained small wasps and beetles.

118. Merops apiaster. (European Bee-eater.)
This is our only migratory Bee-eater, arriving from the north generally about November and breeding in colonies in the sandy banks of the larger rivers. It is usually seen in fairly large flocks, which occur on the outskirts of the bush, especially near water, and often soars to a considerable height. Stomachs contained hymenoptera, winged termites, and locusts.

119. Merops natalensis. (Carmine-throated Bee-eater.)
This lovely bird is very scarce near Salisbury, but is fairly plentiful in the lower veldt all round. In its habits it is very similar to the preceding species, but is an even more persistent high-flier. I have often found that lighting a grass-fire is an effectual way to draw them down to earth again, for they will come to hawk for insects in the smoke, like the Drongos. In November 1897 I saw a large colony nesting in holes in the sandy bank of the Odzi river in Manika. They are especially partial to the migratory locust, and I was much surprised to find in the stomach of one of them an example of a blister-beetle.

120. Merops albifrons. (White-fronted Bee-eater.)
Obtained by Mr. Ayres on the Lower Hanyani river.

121. Ceryle rudis. (Pied Kingfisher.)
Fairly common, occurring in pairs along all the rivers.

122. CERYLE MAXIMA. (Great African Kingfisher.)

This giant species is everywhere rather scarce and always very shy. I observed a pair nesting in a hole in the bank of the Umfuli in September 1895.

123. ALCEDO SEMITORQUATA. (Half-collared Kingfisher.)

Common along the Umfuli, though I have not observed it elsewhere.

124. CORYTHORNIS CYANOSTIGMA. (Malachite-crested Kingfisher.)

This exquisite little bird is common on every stream throughout the year.

125. HALCYON PALLIDIVENTRIS. (Grey-headed Kingfisher.)

This fine Bush-kingfisher is very scarce, and it appears to be migratory, as I have seen it only during the wet season. The stomach of one example contained a lizard, two slow-worms, grasshoppers, and beetles.

126. HALCYON CHELICUTENSIS. (Striped Kingfisher.)

A very common resident, but only to be met with in the bush, away from water, where it selects some elevated perch whence it darts upon the insects on which it preys. In the breeding-season the male has a short but very pleasing song, though its ordinary cry is a harsh chatter. Its principal food consists of orthoptera, but I have likewise observed it to feed on butterflies (*Junonia cebrene* and *Catopsilia florella*) and beetles.

127. BUCORAX CAFFER. (South-African Ground-Hornbill.)

The "Brown Vogel" is far from common in Mashonaland, being more often heard than seen; it is, moreover, very much more shy than I found it to be in Natal. I am not aware that the Mashonas attribute to it any rain-making qualities, as do the Zulus.

128. LOPHOCEROS EPIRHINUS. (Southern Grey Hornbill.)

A common species, but subject to partial migrations, which depend on its food-supply. It occurs in small flocks in the bush, keeping well hidden in the foliage and being somewhat difficult to get near. Its shrill mewing cry strikes one as being very incongruous in so large a bird; it has a very characteristic, jerky, dipping flight. Stomachs examined contained locusts, mantides, coleoptera, and fibrous vegetable matter, but I have also seen this Hornbill feeding on fruits and seeds. It will occasionally descend to feed on the ground.

129. Lophoceros leucomelas. (Yellow-billed Hornbill.)

Much scarcer than the preceding species in the vicinity of Salisbury, but very plentiful in the heavier bush, where its loud yelping cries are continually to be heard. It occurs in small flocks, and is not nearly so shy as *L. epirhinus*, while, unlike that bird, it perches on the topmost branches of high trees, where it bobs its head up and down, uttering its loud "toc, toc, tocke, tocke, toc." Its bill is a very powerful instrument, and I have often wondered at the ease with which it can open the huge pods of a large leguminous tree which I have found hard enough to split with a hammer. Its stomach contained locusts, termites, and ants.

There is another larger and casqued Hornbill, of which I have seen a few flocks on the Umfuli and near Salisbury; I suspect this is the Trumpeter Hornbill (*Bycanistes buccinator* Temm.), but unfortunately I have never succeeded in getting within range, as the birds are very wild.

130. Campothera smithi. (Smith's Woodpecker.)

I have not succeeded in identifying this species, though Mr. Ayres remarks that it was not very scarce along the Umfuli.

131. Campothera bennetti. (Bennett's Woodpecker.)

Not uncommon throughout the year. Stomachs contained coleoptera (*Oosomus, Cassida,* &c.) and black ants.

132. Dendropicus cardinalis. (Cardinal Woodpecker.)

This little species is much the commonest of our Woodpeckers.

133. Thripias namaquus. (Bearded Woodpecker.)

Only a few examples of this species have come under my notice, but it has not improbably been overlooked.

134. Indicator minor. (Little Honey-Guide.)
Common, though rather local. Along the Suro-suro river, in July 1894, these birds were so plentiful as to be a regular nuisance with their incessant chattering invitations; and yet our Kafirs insisted that it was no use following them, as there were no bees there and the birds would lead us away for miles. I recollect having seen this species only twice close to Salisbury, and both times it led us to honey.

135. Melanobucco torquatus. (Black-collared Barbet.)
Fairly common, occurring singly or in pairs in bush-country. It may occasionally be seen sitting on the top-most branch of some dead tree, bobbing its head up and down as it gives vent to its singularly loud cry of "ko korro, ko korro," oft repeated. It appears to be entirely frugivorous in its diet, and its flight is headlong and swift.

136. Trachyphonus cafer. (Levaillant's Barbet.)
I obtained a single specimen of this curious bird among the giant ant-heaps on the Hanyani river in September 1898. It was feeding on the ground and flew up into a low bush; the stomach contained only termites. Mr. Swynnerton saw another the following day.

137. Coccystes glandarius. (Great Spotted Cuckoo.)
All our Cuckoos are migratory, occurring only during the wet season, and generally putting in an appearance from the middle of September to the beginning of October. None of them seem to be plentiful, the present species being perhaps the commonest. It is seen singly or in pairs, and has a harsh chattering cry. Its food consists of locusts, beetles, and hairy caterpillars; it removes some of the violently urticating hairs of the last by running them through its bill from side to side before swallowing them.

138. Coccystes jacobinus. (Black-and-White Cuckoo.)
I have obtained only a single female of this elsewhere common species, in February 1899, when, although the bird was by no means in full plumage, the eggs in the ovaries were well developed. The stomach contained hairy caterpillars.

139. Coccystes cafer. (Levaillant's Cuckoo.)

Only one example has come under my notice, and this I shot close to Salisbury, in December 1898. The stomach contained hairy caterpillars.

140. Cuculus gularis. (South-African Cuckoo.)

Although Mr. Ayres records this species as plentiful on the Umfuli, I did not observe it there in the spring of 1895, and an immature bird shot near Salisbury in November last is the only one I have seen. This example differs from the adult in having the nostrils black, all the feathers of the head and back broadly barred at their tips with greyish or buffish white, and the sides of the face and the entire throat barred like the abdomen, except that the bars are decidedly closer; it also has a large nape-spot composed of pure white feathers, which may perhaps be merely a "sport." The colours of the soft parts are:—upper mandible, including nostrils, blackish; lower mandible blackish at tip, the base and also the palate salmon-red; iris brown; feet pale yellow. The stomach contained caterpillars and beetles.

141. Cuculus canorus. (European Cuckoo.)

A single specimen was obtained in January last by Mr. Swynnerton.

142. Chrysococcyx cupreus. (Golden Cuckoo.)

This beautiful little Cuckoo is not very common, being found both in the bush and perching on low shrubs in open swamp-land, its very distinctive call soon betraying its presence. It certainly breeds with us, as I have observed young birds in January.

143. Chrysococcyx smaragdinus. (Emerald Cuckoo.)

Mr. George Taylor informed me that this species was fairly common in the forests of Makombi's country, some 100 miles N.E. of Salisbury, where he was Native Commissioner for some time.

144. Centropus burchelli. (Burchell's Lark-heeled Cuckoo.)

A fairly common bird among reedy thickets along the banks of streams. It spends most of its time on the ground, but when flushed settles in the lower branches of trees and ascends with a creeping motion suggestive of a Coly. Its flight is very weak, and when frightened it will skulk among the dense undergrowth, refusing to be put up. It utters a loud squawking note at intervals, and the Kafirs say that when it calls frequently it is a sign of rain. Mr. J. ffolliott Darling has kindly furnished me with the following account of the nidification as observed by him at Mazoë :—

"In January I found a nest of *Centropus burchelli* in a low thorn-bush about 6 ft. from the ground; it was composed of dry grass, rather roughly constructed, domed, and with a large hole at the side pointing away from the prevailing winds. In it were four young birds a few days old, very extraordinary-looking little creatures, with large heads and enormously distended abdomens; in the one I skinned I counted 17 grasshoppers, besides the débris of various other insects. About a month later I found another nest in a similar position and similarly constructed; in it were two birds just hatched and two eggs, the latter being round and white and a little larger than those of *C. nigrorufus*."

145. Centropus nigrorufus. (Black-breasted Lark-heeled Cuckoo.)

Not uncommon in the open reedy swamps round Mazoë and about the Gwibi flats. Except for its preferring open country, its habits much resemble those of the preceding species. Of its nest Mr. Darling writes:—"On 13th January I took a nest of *C. nigrorufus* in long and thick grass in a vlei; the bird flew out beside me or I should not have found it, so artfully was it concealed, being woven out of the living grass, so that it kept green all the time, and when I stood only a couple of yards away it was impossible to discern the nest. This was situated about 2 ft. from the ground, domed, and with a small aperture at the side, the grass being very finely and carefully woven in small plaits or wisps and not in single blades, and the tops protruding freely for some distance above the nest. The eggs were four in number, pure white, and almost spherical, just like very large Kingfishers'." The stomach of the only bird examined contained coleoptera. The Lark-heels, unlike the true Cuckoos, are resident.

146. Turacus schalowi. (Schalow's Touracou.)

Mr. Darling tells me he obtained examples of a white-crested Touracou on the lower Hanyani river in 1895, which is probably referable to this species or *T. livingstonii*.

147. Gallirex porphyreolophus. (Purple-crested Touracou.)

This lovely bird is very scarce in the portions of Mashonaland with which I am acquainted, probably owing to the insufficiency of cover in the open forests. The few individuals I have seen have been in the dense growth that fringes the upper Mazoë and Umvinji rivers; the species will doubtless be more plentiful in the low veldt.

148. Schizorhis concolor. (Grey False Touracou.)

The "Go-'way Bird," as it is popularly called, is common and universally distributed. Its loud cry is remarkably human-like, and its continued querulous injunctions to "go away" appear almost insulting. With regard to the elevation of the crest in this species when alarmed, Dr. Exton's full account, as cited in Messrs. Sharpe and Layard's work, is admirable and quite agrees with my own experience. This bird is generally to be found in small flocks, and feeds on berries, seeds, and young shoots.

149. Pœocephalus meyeri. (Meyer's Parrot.)

This little Parrot is common throughout the country, and is found either in pairs or in small flocks of five or six. Its flight is rapid and headlong, and it utters a shrill scream when alarmed.

150. Pœocephalus fuscicollis. (Brown-necked Parrot.)

A very much scarcer bird than *P. meyeri*, and not nearly so tame. I have observed it on only three or four occasions.

151. Gyps kolbii. (South-African Griffon.)

Abundant. It has been stated that during the recent outbreak of rinderpest the Vultures would not touch the cattle which had died of that disease. This, however, is quite erroneous, and the idea was probably originated by the fact that the carcasses throughout the country were enormously disproportionate to the number of Vultures.

152. Gyps rueppelli. (Rüppell's Griffon.)
Observed by Mr. Ayres.

153. Otogyps auricularis. (Eared Vulture.)
Although common, this species is not nearly so plentiful as the Griffon.

154. Lophogyps occipitalis. (White-headed Vulture.)
Recorded by Mr. Ayres.

155. Neophron percnopterus. (Egyptian Vulture.)
I have seen this species only once in Mashonaland, and it has been observed once by Mr. Swynnerton.

156. Neophron pileatus. (Hooded Vulture.)
This Vulture is fairly common and may be at once recognized by its smaller size and pink head. It seems to be rather afraid of its two larger relatives, and does not usually visit a carcass at the same time with them, but contents itself with the pickings after they have left.

157. Serpentarius secretarius. (Secretary-bird.)
This well-known bird is generally distributed, though nowhere common, being usually met with in open grassy country. They make enormous nests of sticks ; all that I have seen were in low mimosa-trees.

158. Circus cineraceus. (Montagu's Harrier.)
Not uncommon, frequenting open country, especially about swamps and streams where termite-heaps occur, for the holes in these afford shelter to many mice. Its flight is low, and it appears to search its ground very thoroughly. Almost any day in our summer a pair may be seen skimming gracefully round the outskirts of the town.

159. Circus macrurus. (Pallid Harrier.)
About equally common as the preceding, which it closely

resembles in habits. The stomach of a specimen in my collection contained four large green locusts. Both these Harriers are migratory, occurring only during our wet season

160. Melierax polyzonus. (Many-banded Goshawk.)

Mr. Swynnerton obtained a single example of this Hawk in January last. The stomach contained a lizard and some beetles.

161. Astur polyzonoides. (Little Barred Goshawk.)

This little Hawk is one of our commonest birds of prey, and also is one of the few which reside here all the year round. It is by no means shy, sitting fairly close within the foliage of the trees; when disturbed it descends with a low swooping flight, dodging in the bush, but for no great distance, and rising abruptly to its perch. The nest is a neat structure of sticks placed in the fork of a tree, about 15 or 20 feet from the ground; the eggs, which are three or four in number, are dull white, with highly variable blotches of vandyke-brown and underlying markings of lilac-grey, and measure 38 × 30 mm. Stomachs contained lizards, snakes, locusts, and winged termites. The young bird differs in having the underparts marked with longitudinal blotches of light reddish brown.

162. Accipiter ovampensis. (Ovampo Sparrow-Hawk.)

I have obtained only a single specimen in Mashonaland, which is probably referable to this species *. It was one of a pair which frequented a kloof close to Mr. Darling's camp at Mazoë in December 1898. It was a young female with undeveloped ovaries, and appeared to differ from what I could remember of Natal examples in the colour of the breast, which was rufous, with very narrow black shaft-stripes, and also in its buff under tail-coverts. The stomach contained remains of a small bird, apparently a Weaver.

163. Buteo jakal. (Jackal Buzzard.)

This is the only Buzzard with which I am acquainted here,

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* [This is probably the specimen recently sent to the British Museum by Mr. Marshall.—Edd.]

and it appears to be far from common. Two examples have been shot recently by Mr. Swynnerton; their stomachs contained snakes, beetles, and winged termites.

164. Aquila wahlbergi. (Wahlberg's Eagle.)

This Eagle is not common, and, like most of its kind, is more easily seen than procured. Mr. C. Timmler recently shot a fine female, as she left her nest. This latter was a large structure of sticks in the strong fork of a large tree, about 20 feet from the ground, and was lined with roots, grass, and a few green leaves. The single egg was dirty white, with large pale blotches and freckles of yellowish brown, and faint underlying blotches of brownish grey; it measured 60 × 48 mm. The bird's stomach contained lizards and a locust.

165. Asturinula monogrammica. (African Buzzard-Eagle.)

Fairly common and more readily approachable than any of our larger Hawks. It prefers to keep well within the bush, and is somewhat lethargic in its habits, the flight being comparatively heavy. The following are the contents of a single bird:—2 scorpions, 2 large centipedes, 4 larvæ of a large cetomid beetle, and 4 locusts; in addition the crop was crammed with 130 winged specimens of our largest termite. This species seems specially partial to scorpions and centipedes, either one or the other having been observed in almost every specimen; one also containing a small viperine snake.

166. Circaëtus pectoralis. (Black-breasted Harrier-Eagle.)

This fine Eagle is relatively common round Salisbury, and two or three individuals may generally be observed within a few miles of the town during the summer. It is a comparatively fearless bird, though generally managing to keep just out of gunshot. It frequents open country, especially in the vicinity of water, and searches its ground very thoroughly from a considerable altitude; but settles very frequently, even on low trees, and will often haunt one particular spot for some little time. It is interesting to see this large bird hovering just like a Kestrel far up in the air; it resembles a Kestrel also in the way it descends on its prey, which is generally taken on the ground—the downward flight being comparatively gentle, and not headlong, like the magnificent swoop of the Bateleur. Messrs. Sharpe and Layard describe the cere as olive-yellow, whereas, in the specimens I have seen, that part, as well as the legs, have been bluish white. An immature bird in my collection also differs much from their description. In this there is a broad brown breast-band (distinctly lighter than in the adult), the rest of the underparts being pure white, with large dark brown blotches throughout. In an old bird the breast-band becomes narrower and almost black. Stomachs contained mice, snakes, lizards, and beetles.

167. Helotarsus ecaudatus. (Bateleur Eagle.)

A fairly common species throughout Mashonaland, but very shy, and I have not yet succeeded in bringing one to bag. It has a beautiful and a powerful flight, sailing majestically along with scarcely a flap of the wing, and remaining in the air for hours at a time. Its downward swoop must be made with enormous force; and I well remember my astonishment when a female, hotly pursued by a male, swept down on me from behind, passing within a few yards, and before I had realized what was the cause of the terrific rush, they were far away in mid-air again. When camped on the Umfuli I obtained a young bird from some Kafirs; it became very tame, coming up to me and putting its head down to be scratched. I never confined it in any way beyond clipping its wings, and one day it wandered away on its own account. I fed it on buckwheat and the bodies of any birds I skinned, but when meat was scarce it would catch locusts for itself.

168. Helotarsus leuconotus. (White-backed Bateleur Eagle.)

On three occasions I have observed examples of this form near Salisbury, but it would seem very doubtful whether it is entitled to specific rank.

169. HALIAËTUS VOCIFER. (African Sea-Eagle.)

This fine Eagle is by no means common, and generally haunts the larger rivers in which big pools are to be found. I have seen it on the Lundi, Nuanetsi, and Umfuli, and on a few occasions near Salisbury.

170. MILVUS ÆGYPTIUS. (Yellow-billed Kite.)

A common migrant, coming down from the north about September and leaving again in March. Although generally distributed, I do not remember to have seen more than half a dozen together at one time, and it is more generally observed in pairs. Like all its congeners, it is a bold and fearless bird, and on any day several may be seen gracefully patrolling the town in search of anything edible from a chicken to a locust.

171. ELANUS CÆRULEUS. (Swallow-tailed Kite.)

Seen by Mr. Ayres, but not procured.

172. BAZA VERREAUXI. (Verreaux's Cuckoo-Falcon.)

A single example of this rare species was shot by Mr. Swynnerton. Its stomach contained grasshoppers, beetles, and a large green caterpillar.

173. FALCO BIARMICUS. (South-African Lanner.)

Observed by Mr. Ayres.

174. FALCO SUBBUTEO. (Hobby.)

Though I have observed but few myself, the Hobby would appear to be fairly common round Salisbury, for Mr. Swynnerton has recently shot five specimens, nearly all of which were obtained while they were hawking for crepuscular insects when it was almost dark. The stomachs contained beetles, locusts, and a butterfly.

175. TINNUNCULUS RUPICOLOIDES. (Large African Kestrel.)

A common and generally distributed species; it is by no means timid, seeking its prey in and around the town and being especially fond of sitting on the telegraph poles and wires. In 1897 a pair nested on a ledge at the Cecil Hotel, but failed to bring off any young, as they were too much tormented by the Crows. The following contents have been found in the stomachs of this species:—a shrew, lizards, slow-worms, scorpions, centipedes, grasshoppers, mantides, and the large-winged Carebara ants.

176. Tinnunculus naumanni. (Lesser Kestrel.)

This little Kestrel is fairly common during the rainy season, usually occurring in flocks which sometimes attain considerable proportions. When they hover they flutter their wings a good deal more than does *T. rupicoloides*, and it is a pretty sight to see 20 or 30 of them working systematically over an open piece of ground. Stomachs contained grasshoppers, centipedes, and beetles, and one bird was crammed with hunting spiders.

177. Tinnunculus amurensis. (Eastern Red-footed Kestrel.)

A single specimen of this pretty Hawk was shot by Mr. Swynnerton while it was feeding at dusk along the river. Its stomach contained 18 large pentatomid bugs, 6 water-beetles, 1 grasshopper, 2 winged Carebara ants, and winged termites.

178. Bubo maculosus. (Spotted Eagle-Owl.)

The commonest Owl in the country, being found singly or in pairs sheltering in the more densely-foliaged trees; I do not remember to have ever noticed it roosting on the ground, as it does in the uplands of Natal. The small birds are very fond of mobbing it, being usually led in these attacks by the Bulbuls or Drongos. Its stomachs contained mice, a harmless snake, locusts, and a longicorn beetle.

179. Bubo lacteus. (Verreaux's Eagle-Owl.)

I observed several specimens of this splendid Owl along the Umfuli, but round Salisbury it would appear to be very scarce. I have heard several accounts of its depredations on the hen-roosts, and it is said to return night after night until it finishes the fowls. On the Umfuli the Kafirs told me it fed principally on Guinea-fowls.

180. Glaucidium perlatum. (Pearl-spotted Owlet.)

Only some half-dozen specimens of this little species have come under my notice, but it probably escapes detection owing to its small size and inconspicuous colouring. It appears to be at least partially diurnal in its habits, moving about in the daytime much more freely than the other Owls. The stomach of an immature bird contained a lizard and a locust.

181. Glaucidium capense. (Barred Owlet.)
I do not remember to have seen this species on the Umfuli, though Mr. Ayres found it not uncommon there.

182. Asio capensis. (African Short-eared Owl.)
Seen by Mr. Ayres, but not procured.

183. Strix flammea. (Barn-Owl.)
Not very common round Salisbury, though I have come across it pretty frequently in disused mining shafts and drives in the out-districts.

184. Vinago delalandii. (Delalande's Green Pigeon.)
This handsome bird is common and generally distributed, though subject to partial migrations depending on the ripening of the various fruits on which it feeds. It is especially fond of the wild fig, the dense foliage of which affords it excellent protection, rendering it very hard to detect as it sits very close, but it dashes out with considerable speed when roused. Its flesh is excellent.

185. Turtur semitorquatus. (Red-eyed Turtle-Dove.)
A somewhat scarce and solitary species, the presence of which I had overlooked till quite recently.

186. Turtur capicola. (Cape Turtle-Dove.)
Common everywhere, occurring generally in pairs, but often in small flocks. Although avoiding the town, these Doves are a feature of every homestead and become almost as tame as domesticated Pigeons. They seem to breed pretty well all the year round, as I have found their eggs in nearly every month.

187. Turtur senegalensis. (Senegal Turtle-Dove.)
On a few occasions I heard the unmistakable call of this species about Mazoë, though I never actually saw one; it does not appear to occur at all round Salisbury.

188. Œna capensis. (Namaqua Dove.)

This beautiful little Dove is comparatively scarce in Mashonaland, and I rather doubt whether it is resident.

189. Francolinus coqui. (Coqui Francolin.)

Common everywhere, but preferring the mosasa-bush, wherein the grass grows fairly short. It sits wonderfully close, and, when feeding towards sundown, will permit one to approach within a few yards without evincing much alarm. In addition to seeds, the stomachs contained beetles, coccidæ, and ants.

190. Francolinus shelleyi. (Shelley's Francolin.)

Almost as common as the Coqui, but frequenting rather different stations, being more partial to broken hillsides covered with long grass.

191. Pternistes nudicollis. (Red-necked Francolin.)

The so-called "Pheasant" is common, but found only among the dense undergrowth along the banks of streams and rivers, from which it is often difficult to dislodge it. It has a singularly loud and harsh cackling call, uttered in the early morning and evening.

192. Pternistes swainsoni. (Swainson's Francolin.)

I have seen this species only in the extreme south of our limits. It was very plentiful on the Limpopo, and occurred also on the Nuanetsi and Lundi, but I saw no more after ascending the plateau at Narka Pass, near Victoria.

193. Coturnix capensis. (Cape Quail.)

Very abundant in some seasons, though its movements are most erratic. This year there have been very few examples about.

194. Numida coronata. (Crowned Guinea-fowl.)

This wide-ranging bird is very abundant, and occurs in every description of country, though it is most numerous along the larger rivers, where troops of several hundreds may be met with. In the crop of a bird shot by Mr. Swynnerton I found many beetles, which had been swallowed whole without any damage.

195. Turnix lepurana. (Kurrichaine Hemipode.)
Only a few solitary examples of this pretty little bird have been met with in open swampy ground.

196. Crecopsis egregia. (Greater African Crake.)
This species was first brought to my notice by Mr. Swynnerton, who shot one on the Makabusi river, quite close to Salisbury. Since then I have seen two more examples, and they are probably not uncommon, as on one wet day I heard them calling in some numbers in a dense and impenetrable reed-bed lower down the Makabusi. The stomach of Mr. Swynnerton's specimen contained ants and some vegetable matter.

197. Limnocorax niger. (Black Crake.)
Not uncommon along reedy pools &c., but difficult to procure, owing to their lurking habits, though their presence may often be detected by their sharp call of "check, check," repeated at short intervals. Their green bills and bright red legs form a pleasing contrast to their black plumage, and they look very pretty running about with ease on the water-lilies in search of their food.

198. Bugeranus carunculatus. (Wattled Crane.)
199. Tetrapteryx paradisea. (Stanley Crane.)
200. Balearica regulorum. (Southern Crowned Crane.)
All the three South-African Cranes occur in Mashonaland, the Wattled Crane being the least common, and I have only occasionally seen it singly or in pairs. The other two species are sometimes to be seen in flocks of 20 or 30 individuals.

201. Lophotis ruficrista. (Red-crested Bustard.)
I have never seen this handsome Bustard, though Mr. Ayres appears to have met with it in several parts of the country.

202. Lissotis melanogaster. (Black-bellied Bustard.)
This is the ordinary "Koorhaan" of this country, though it is nowhere common, being generally a solitary bird and frequenting open grassy vleis.

203. Eupodotis kori. (Kori Bustard.)

The "Gom-Paauw" seems to occur sparingly in most parts of the country, though personally I have seen but few of them.

204. Œdicnemus capensis. (South-African Thick-knee.)

The "Dikkop" is decidedly scarce in Mashonaland, frequenting rough open country in small flocks. It is usually easy to approach, as it relies much on its admirably protective colouring, but soon becomes wild on being shot at. It is at least partially nocturnal in its habits.

205. Œdicnemus vermiculatus. (Vermiculated Thick-knee.)

Recorded by Mr. Ayres from the Umfuli and Rwerwe, but I have not yet recognized the species.

206. Cursorius temmincki. (Temminck's Courser.)

Fairly common, being found in small flocks in open country where the grass is sufficiently short, and especially on the new "burus" in spring. It relies much on its running powers, which are certainly remarkable for so small a bird; it is also fairly strong on the wing, the course of its flight being usually semicircular.

207. Rhinoptilus chalcopterus. (Violet-winged Courser.)

A single specimen of this scarce Courser has been brought to me; it was shot in close proximity to the town.

208. Lobivanellus lateralis. (Wattled Plover.)

This large Plover is plentiful in open country in the neighbourhood of streams or vleis, where it appears to feed chiefly on beetles. It is usually found in small flocks, but occasionally 50 to 100 may be seen together. These birds are noisy on the wing, and seem to move about a good deal at night, when they may often be heard calling. I once observed two, presumably male, birds fighting, and I noticed that they made considerable use of the powerful spurs on the wings as weapons of offence.

209. Oxyechus tricollaris. (Treble-collared Sandpiper.)

This species is common during the wet season, running about the margins of pools and rivers either singly or in pairs. It has a jerky gait, and will run rapidly for a short distance and then stop short and bob its head up and down. Its flight is strong, but seldom long sustained, and when flushed it will generally return in a short time to its favourite pool.

210. Tringoides hypoleucus. (Common Sandpiper.)

A fairly common migrant in our summer; it is a solitary bird, and resembles the preceding species in its general habits.

211. Totanus canescens. (Greenshank.)

The Greenshank reaches us from Europe about September, and is to be found in small flocks along the river-beds, more especially wherever there are any stretches of sand. It is a somewhat wary bird and flies strongly, often at a considerable elevation.

212. Gallinago nigripennis. (Black-quilled Snipe.)

In the earlier days Snipe used to be fairly plentiful in the low-lying ground round Salisbury, and very respectable bags have often been obtained; but recently they appear to have become a good deal scarcer, possibly owing to a succession of several dry years.

213. Rostratula capensis. (African Painted Snipe.)

Very much scarcer than the preceding.

214. Ibis æthiopica. (Sacred Ibis.)

I have examined a single female specimen of this bird which was shot on the Makabusi river, not far from Salisbury.

215. Herodias bubulcus. (Buff-backed Egret.)

A common species, though, like many other water-loving birds, it has been decidedly less plentiful during the recent dry summers. Flocks of 20 or 30 may occasionally be seen about the commonage. Its habit of feeding on cattle-ticks has often been alluded to, and the Mashonas have dubbed it "Mafudsa-ngombo" (the cattle-herd) in recognition of this. However, the stomachs of three birds examined this season contained none of these creatures, but only fish, larvæ of dragon-flies, grasshoppers, a large spider, and a water-bug.

216. Herodias brachyrhyncha. (Short-billed White Egret.)

A single specimen in Mr. Swynnerton's collection seems to be referable to this species.

217. Herodias garzetta. (Little Egret.)

This species is evidently very much scarcer than *H. bubulcus*, and is a more water-loving bird.

218. Ardea cinerea. (Common Heron.)

Fairly common, but usually occurring singly.

219. Ardea purpurea. (Purple Heron.)

Only two females of this species have come under my notice, both of which were shot close to Salisbury.

220. Ardea goliath. (Goliath Heron.)

Seen by Mr. Ayres, but not procured.

221. Nycticorax griseus. (Night-Heron.)

I have examined a pair of these birds which were obtained in the Salisbury district.

222. Butorides atricapilla. (African Black-headed Heron.)

Mr. Ayres found this species rare on the Umfuli river.

223. Ardetta sturmi. (African Dwarf-Bittern.)

A fairly common bird, occurring in pairs along streams and vleis where there are bushes close to the water's edge, for in these it is wont to perch. It is by no means shy, and the flight is slow and heavy. It utters a loud croaking cry when flushed, but I am not aware that it possesses the power of "booming" like the Common Bittern. This species feeds to a considerable extent on insects as well as on fishes.

224. Scopus umbretta. (Hammerkop.)

Though never very plentiful, a few pairs of this singular bird are to be found on almost every stream. I have not often had an opportunity of witnessing their weird gambols; but a short time ago I discovered three of them as they were solemnly dancing round one another, bowing and flapping their wings and exhibiting all sorts of strange antics, the whole performance appearing all the more ludicrous in so stolid-looking a bird. They are readily approachable, and usually their flight is somewhat laboured, though occasionally I have seen one rise in big circles higher and higher until almost out of sight and then descend swiftly again to the water. They are fond of frequenting a limited area for a considerable time, and will aways return to their favourite spot if not too rudely disturbed. The singularly large nests of this bird have often been described; they are generally placed in rather inaccessible places, but the only one I know of in this locality has been built on a broad tree-trunk projecting over a stream.

225. Ciconia nigra. (Black Stork.)

I have seen but very few specimens of this handsome Stork.

It is remarkable that we have not met with any examples of the common White Stork as yet, for, although their migrations are erratic, yet there have been plenty of locusts to attract them during the last six years. It is possible that their line of migration may lie more to the westward, as Mr. Buckley met with them in immense flocks in Southern Matabeleland, whereas in the Transvaal Mr. Ayres says they are rare visitants and do not seem to follow the locust-swarms thither.

226. Ciconia abdimii. (White-bellied Black Stork.)

A few small parties of this species have been observed round Salisbury during the past summer. The soft parts of a specimen in my collection were as follows:—Bill jade-green, tip dull red; iris brown; bare parts of face thus: forehead pinkish white, chin and a large spot in front of eye crimson, remainder blue; knees and toes dull crimson, rest of legs dark greenish. The stomach contained many remains of much digested beetles.

227. MYCTERIA SENEGALENSIS. (African Jabiru.)

This grand bird is decidedly scarce, and I have seen only a few single examples at long intervals. One has been shot recently not far from Salisbury.

228. LEPTOPTILUS CRUMENIFER. (African Marabou.)

Although I have never personally seen this species to the north of the Limpopo, I have heard of its occurrence in several parts of Mashonaland, and one was shot by Mr. Jameson on the Umfuli.

229. ANASTOMUS LAMELLIGERUS. (African Openbill.)

I saw a single specimen of this curious Stork in January last, sitting on the summit of a tree overhanging the Makabusi river, about two miles from the township.

230. PHALACROCORAX LUCIDUS. (South-African Cormorant.)

A common species, occurring singly or in pairs along every river, sitting on the rocks or overhanging branches. On the Umfuli I noticed that a dozen or more would collect together to roost for the night in some overhanging bush, though they separated during the day.

Examples of another Cormorant with black underparts have occasionally been observed, but not yet identified.

231. PLOTUS LEVAILLANTI. (African Darter.)

Obtained by the Jameson expedition.

232. PLECTROPTERUS GAMBENSIS. (Spur-winged Goose.)

Fairly common in suitable localities throughout the country, but I have always found it to be a very shy bird. A flock of them may occasionally be seen flying high over the town in their usual V-shape formation; but the Makabusi is too small a stream to attract them much.

233. SARCIDIORNIS MELANONOTA. (Knob-billed Duck.)

The only specimen I have seen was one shot by Mr. J. ff. Darling on the Upper Mazoë, in 1894.

234. Nettapus auritus. (African Dwarf Goose.)

Not very common and only met with at intervals; but it is probably plentiful where fair-sized pools of water are to be found, for I have seen it in large flocks both in Natal and in the "pans" on the Transvaal high veldt.

235. Chenalopex ægyptiacus. (Egyptian Goose.)

Observed by Mr. Ayres.

236. Anas undulata. (Yellow-billed Duck.)

Not very common; but the country round Salisbury does not appear to be attractive to Ducks of any kind.

237. Pœcilonetta erythrorhyncha. (Pink-billed Duck.)

This is our ordinary species of Duck, and a fair number have been shot in the vleis round the township this summer.

238. Podicipes capensis. (Cape Dabchick.)

A few years ago I used to see these birds rather commonly; but in the last two seasons only a single specimen, shot by Mr. Swynnerton, has come under my notice.

239. Struthio australis. (Southern Ostrich.)

The Ostrich is still to be seen sparingly in Mashonaland, more especially wherever there is any extent of open grassy country. During last summer a flock of four frequented the Gwibi flats, some eight miles north of Salisbury. I am informed that they bred there, but that the nest was robbed by Kafirs, who doubtless do much towards keeping down the numbers of this characteristic bird.

Salisbury, Mashonaland,
May 1899.

Appendix.

[Capt. Shelley has received (12th Feb., 1900) a letter from Mr. Guy A. K. Marshall (dated Jan. 1st, 1900, from Salisbury, in Mashonaland), requesting him to add the following species to the list of Mashonaland Birds.—Edd.]

164*a*. Nisaëtus spilogaster. (Spot-bellied Eagle.)

I have lately shot a large Hawk (24 inches), with feathered toes, off her nest, which I cannot identify for certain, but presume to have been of this species.

169*a*. Pernis apivorus. (Honey-Buzzard.)

I found on the veldt near Salisbury a female with a partially healed broken wing. The body was thin, but the stomach was crammed full, and the crop contained a chameleon and a number of locusts of various species.

173 *a*. Falco biarmicus. (South-African Lanner.)

A specimen was shot by Mr. Swynnerton at the Umchcki river in June.

179*a*. Scops leucotis. (White-eared Owlet.)

One specimen has been obtained, shot near Salisbury.

187 *a*. Chalcopelia afra. (Emerald-spotted Wood-Dove.)

Not uncommon near the Shagari river.

192*a*. Pternistes swainsoni. (Swainson's Francolin.)

Common along the Shagari river, between the Umfuli and Umniati rivers, where it entirely replaces *P. nudicollis*.

195*a*. Crex pratensis. (Corn-Crake.)

Fairly plentiful; but I have never heard its peculiar call-note uttered here.

197 *a*. Gallinago chloropus. (Moorhen.)

Common near the Chirbi river, frequenting the reedy banks of the pools, which are overgrown with water-lilies.

197*b*. Porphyrio alleni. (Allen's Porphyrio).

Gurbi river. The only specimen seen (an adult female) was obtained on the Gurbi river in December last.

211*a*. Totanus stagnatilis. (Marsh Sandpiper.)

A pair shot near Salisbury.

214*a*. Herodias alba. (Great White Egret.)

Obtained on the Lower Gurbi river.

230*a*. Phalacrocorax africanus. (African Shag.)

This Cormorant is common on the Shagari, Gurbi, and Kirosuro rivers.

XIV.—*Notes on the Birds observed during Three Visits to Kamchatka in* 1896 *and* 1897. By G. E. H. Barrett-Hamilton, F.Z.S.

During the course of my two missions to the Fur-Seal Islands of the North Pacific, in the years 1896 and 1897, it was on three occasions my good fortune to visit the mainland of the great Kamchatkan Peninsula. These visits were, unfortunately, all too brief, and consisted merely of two calls at Petropavlovsk, in H.M.S. 'Spartan' from the morning of the 14th to the evening of the 17th July 1896, in H.M.S. 'Linnet' from the morning of the 27th to 9 a.m. on the 31st of August 1897 (for coaling and provisioning purposes), and a short stay from about noon on the 21st to 6 a.m. on the 24th August 1897, in H.M.S. 'Linnet,' in the neighbourhood of the almost unknown island of Karaginski, off the north-eastern coast. Nevertheless I was able to observe about 56 species of interesting birds*, and to bring home a collection of 69 skins† (representing 44 species), some of which are of special interest, either from their novelty, as in the case of the Nutcracker, to which I have given the name *Nucifraga kamchatkensis*, or because they add to our knowledge of the distribution or life-history of little-known species. In fact the small collection of skins made on the shore of Ukinsk Bay adds a new locality to the rather meagre list of places from which specimens of Kamchatkan birds are known to us; the locality is, moreover, noteworthy for its propinquity to the interesting Anadyr and Chukchi regions, the avifauna of which is of special interest.

Although we are largely indebted to the labours of Russian naturalists, such as Steller, Vossnessenski, Taczanowski, von Kittlitz, and Dybowski, for our knowledge of the Kamchatkan avifauna, their papers are scattered through a number of not easily procurable foreign periodicals, and it is

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* Out of a total of 270 ornithological specimens procured during the course of my wanderings.

† In all representatives of 56 genera and 64 species were seen or obtained either by members of my party or by purchase from natives.

Dr. Leonhard Stejneger * who has produced the latest and most complete account of the birds of Kamchatka as a whole. His memoir is, I believe, the only publication of the kind in the English language. It is therefore to his 'Birds of Kamchatka' that I have referred for information or for the elucidation of any doubtful questions, and I have also found it convenient (with some exceptions) to follow his system of nomenclature, although I fear it will not commend itself to all naturalists of the Old World.

When Dr. Stejneger wrote his work, he had records of the occurrence of 175 species or subspecies of birds on the mainland of Kamchatka. Practically none of these are occasional visitants, so that that number may be taken as representing with fair accuracy the true avifauna of the country. The total is little affected by the few additions which I was able to make to it, since, of these, two, viz. *Mareca americana* and *Heteractitis incanus,* are American species. They are already known, it is true, from the western side of Bering Sea, the former from a single specimen, the latter as a regular summer visitor to, and possible breeder on, the Commander Islands; but it is likely that they are only occasional or accidental visitors to the Asiatic mainland. A third, *Accentor montanellus,* seems to be an addition to the group of those Palæarctic summer birds which, although migrating annually north-eastward to the western and probably reaching even the eastern shores of Bering Strait, do not habitually occur in Kamchatka, for my bird was obtained in a quite natural locality on the island of Karaginski, on the very north-eastern boundary of the peninsula. The fourth, *Œdemia carbo,* is a bird previously known from the Japanese area: it is a pity that my single specimen (for which I am indebted to Mr. Jacobleff, of Petropavlovsk) is undated. The fifth, *Cepphus snowi*, may represent an annual summer visitant, if, as has been suggested by Dr. Stejneger †, it be found that this, the Kuril-

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* "Results of Ornithological Explorations in the Commander Islands and in Kamtschatka," being Bull. No. 29 of the U. S. Nat. Mus. (1885).

† "The Birds of the Kuril Islands," Proc. U.S. Nat. Mus. no. 1144, 1898, p. 272.

Island form, includes Southern Kamchatka in the area of its breeding-grounds. The sixth, *Nucifraga kamchatkensis,* is merely the differentiation locally of a bird already well known to be (in one form or another) Kamchatkan; while as to a possible seventh, viz. *Larus canus,* I am uncertain whether this species be really an addition to the Kamchatkan list. Kamchatkan specimens have been usually referred to the seemingly almost identical *L. kamchatkensis.*

The composition of the Kamchatkan avifauna is well shown by the following table, which I take from Dr. Stejneger. A peculiar feature is the large proportion (over 56 per cent.) of swimming and wading birds. Of his 175 species

39	are	*Circumpolar,*	or about	22·3	per cent.
37	,,	*Palæarctic,*	,,	21·1	,,
28	,,	*Pacific*	,,	16	,,
8	,,	*American,*	,,	4·6	,,
9	,,	*Siberian,*	,,	5·1	,,
54	,,	*East Asiatic* or peculiar*,	,,	30·9	,,

Including the Nutcracker, only 11 species or subspecies are peculiar to Kamchatka. All these (except *Haliaëtus hypoleucus* Ridgway, the status of which is doubtful) are "representative" forms of species which are of considerable variability, and possess corresponding "representative conspecies or subspecies in the different provinces of the Palæarctic region." The nature of the modification undergone by these peculiar forms is of great interest. To quote Dr. Stejneger—"In every instance it consists in an increase of the white colour as compared with the nearest allied forms. In fact, *all the peculiarly Kamtschatkan birds possess a greater amount of white than any of their allies, wherever these may reside.* So extreme is this tendency towards whiteness that one species, *Astur candidissimus,* has become entirely white, while another, *Parus kamtschatkensis,* is nearly so." The increase of the white colour is not in the nature of a bleaching or fading of the darker colours, but a simple replacement of them by pure white. Parts of the body which in allied forms are already white have this colour "still purer and more dazzling in the Kamtschatkan forms," while "the other colours seem to be purer, and, in many instances, at least, to be more intense also." The colour which seems to suffer the most reduction is black, but that is only as regards intensity.

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* In this category are included forms which do not ordinarily occur west of the river Yenisei.

Arguing from the facts that the peculiar Kamchatkan forms are considerably whiter than those of any other part of Siberia, that the climate of Kamchatka is less severe than that of Siberia generally, and that the white forms are not Arctic, being found so far south as 53° north latitude, Dr. Stejneger believes that the "theory of climatic conditions producing the geographical subspecies, races, or whatever they may be styled, does not hold good, at least as far as the increase of the white colour at the cost of the others, especially of black, is concerned."

The facts, as observed in connection with the peculiar Kamchatkan birds, do not, he thinks, bear out the conclusions deduced from observations made "long ago, as far back as Gloger's earliest days," that since "the Siberian ornis generally showed a tendency towards an increase of the white colour," and "a similar tendency seemed to obtain in forms living nearer the Arctic," consequently "the white colour was due to the increased cold."

There are so many, as it seems, clear instances of the parallel tendency of the mammals and birds of a whole region or district to vary in a particular direction, either under the influence of Natural Selection or of the direct stimulus of the weather and environment, but, in any case, to suit the particular climatic conditions to which they are exposed, that I should be loth to think that Dr. Stejneger is right here, and I feel bound to search for some other explanation of so striking a case of parallel variation—some explanation which shall be compatible with the idea of climatic influence. It is important to remember that such phenomena as those which Dr. Stejneger describes can only be said to owe their existence to the influence of climate in so far as such influence does not conflict with or run counter to that of the environment generally. The phenomena are not, in fact, the product of a single influencing factor, but of a combination of, probably highly complicated, influences, and the working of any particular one of which can only be positively identified when it acts with a force which greatly exceeds that of all, or of the majority, of the remainder. We have much evidence that dryness or moisture, absence of sunshine, and dull skies, together with purely local conditions, each have their influence on animal coloration, no less than direct differences in degrees of heat and cold, so that I would not like to refuse to climatic influences their due in the guidance of the evolution of the peculiar Kamchatkan birds until all other explanations have been found wanting.

The peculiar Kamchatkan birds are—*Urogallus parvirostris kamtschaticus, Astur candidissimus, Haliaëtus hypoleucus, Dryobates purus, D. immaculatus, Picoides albidior, Pica camtschatica, Nucifraga kamchatkensis, Parus kamtschatkensis,* and *Sitta albifrons.*

Unfortunately we know very little about these peculiar species. Of several of them even Dr. Stejneger had seen no specimen. It is significant that one of those with which we are most acquainted, viz. the Magpie, is not only characterized by its whiteness, but is the largest form of Magpie known to Dr. Stejneger (being larger even than the Central Asiatic *Pica leuconotos* Brehm), so that, apart from its coloration, its size reminds us of the representative northern forms of some of our own common birds, such as the Redpolls, Bullfinches, Wheatears, and Lapland Buntings, and seems certainly indicative of severity of climate. One feature seems to be common to all: they are birds in which there is no conspicuous seasonal change of colour, so that the plumage suitable for the colder seasons of the year must be worn throughout the summer, or not at all.

Lastly, these ten birds are nearly all sylvan forms, and may be included among the more sedentary species resident in Kamchatka throughout the year and unlikely to face the passage of the surrounding oceans. It may be, then, that the seas which on all sides except the north hem in their practically insular home have curtailed and impeded even the slight winter-movements southward which their co-species of the broad regions of Siberia accomplish unhindered. Thus confined and forced to occupy the same ground throughout the year, it is possible that even in Kamchatka they may have to endure a climate which, taken on the whole and not regarded at any particular season of the year, may be actually more severe than that of any other Siberian region inhabited by their co-species. On the other hand, it may be that, when our knowledge of local forms is more extensive, we may find that there remain, after all, to be found in some hitherto unexplored part of Siberia, representatives of these species which are whiter than those of Kamchatka. A case in point would appear to be my new Nutcracker, which, although whiter than *N. caryocatactes* of Europe, is not so white as the Central Asian *N. multipunctata*.

Dr. Stejneger discusses at some length the migration-routes of birds found in Kamchatka and in the regions north of that country. Little though we yet know of the avifauna of these remote regions, that little is sufficient to indicate that the migration-route of certain Kamchatkan species does not lie directly southward, as might at first sight have been expected, through the Kuril and Japanese Islands, but south-westwards towards Central Asia. This adherence to a well-defined south-westerly migrational route seems to explain the total absence from the Kamchatkan Peninsula of so many of the Asiatic summer birds of the regions bordering on Bering Strait. The trend of these migrational routes is held by Dr. Stejneger to mark in the main the tracts by which the ancestors of the species affected reached by annual extensions of their range their present northern summer-quarters. One of the most interesting features of the Kamchatkan avifauna is the total absence therefrom of many common and widespread genera for which the country would appear eminently suitable. An ornithologist cannot be long in the country before the absence of *Ardeidæ* of every sort from the salmon-streams, as well as of *Columbidæ* from the woods, strikes him forcibly as a fact which needs some explanation. This astonishment is increased by a glance at the long lists of absentees tabled by Dr. Stejneger. At the mouth of the Amoor river (in latitudes which overlap those of Kamchatka) occur representatives of 40 or 45 genera, some of them so familiar, as *Fulica, Ardea, Tetrao, Columba, Milvus, Alcedo, Upupa, Iynx, Garrulus, Fringilla* (*spinus*[*]), *Passer, Certhia, Accentor*[†], and *Regulus,* yet all these widely-distributed genera are absent from Kamchatka. Some of these genera, as well as others, such as *Botaurus, Turtur, Milvus, Colœus,* and *Cinclus,* occur commonly in Northern Japan and on the western shores of the Okhotsk Sea, in latitudes north of the Uda river, yet they have not reached Kamchatka. Others, such as *Vanellus, Rallus, Coturnix, Circus, Caprimulgus, Sturnus, Cotile, Troglodytes*[‡], and *Pratincola,* occur in Northern Japan without reaching Kamchatka; yet a glance at the list of birds found in the peninsula shows at once that it is not the severity of climate that excludes most of the above genera.

Dr. Stejneger finds an explanation in the fact that "the climatological and physical conditions of the part connecting it [the Kamchatkan Peninsula] with the continent are such as to make it a true island, zoologically speaking." The flat country (wrongly marked as mountainous on some maps) which lies just north of Kamchatka is so low that a very slight submergence would sink it beneath the waves, while there is much evidence of a recent upheaval of the whole region, including the Commander Islands, and to the latter part of this sentence I can myself bear witness. To such an island the Kuril chain, barren at least in its northern links, would not form a very enticing series of stepping-stones, and it is not surprising that no very regular use of these islands seems to have been made by birds. The absence of so many generally-distributed Circumpolar and Palæarctic birds leads Dr. Stejneger to suppose that the peninsula has been for long isolated, and that its colonization has been both accidental and recent, a supposition which he does not think invalidated by the development into distinct forms of so many birds, since their "specialization is chiefly only an intensification of the general tendency of the birds inhabiting the whole region of which Kamtschatka only forms a province," while their isolation is absolute, so that no assumption of a very long period seems to be needed in explanation.

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[*] I thought I saw this bird at Tareinski Harbour.

[†] The occurrence of *A. montanellus* at Karaginski Island, on the very north-eastern boundary of Kamchatka, rather adds to than deducts from the peculiarity of its distribution.

[‡] Occurs, however, on the Commander Islands, at a distance of only about 97 miles from Cape Kamchatka, the nearest point of the Kamchatkan coast.

Summing up his remarks, Dr. Stejneger concludes that "the peninsula forms a very well-circumscribed ornitho-geographical province, remarkable not only for a number of peculiarly modified forms, but also for a surprising absence of many of the most characteristic forms of the northern Palæarctic and Circumpolar ornis."

A full account of my own experiences in Kamchatka has already been published in other Journals *, so that I think it will be sufficient if, in the present instance, I give an account of the birds met with, and refrain from all but the briefest allusions to the country and its scenery. It is with very real pleasure that I record my great indebtedness to Capt. Winsloe, of H.M.S. 'Spartan,' Capt. Sparkes, of H.M.S. 'Linnet,' and their officers, to whom I owe all my opportunities of collecting, as well as many of my specimens †.

Not a few interesting birds were observed on our voyage up the coast to Petropavlovsk, on July 14th, 1896, of which two species at least were new to me on this journey, viz. Richardson's Skua and the Grey Phalarope. The latter was reported early in the morning by the officer of the watch, who was much puzzled by the sight of an unknown

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* See the Royal Geographical Journal, Sept. 1898, pp. 280–299 (with illustrations and a map), and the Scottish Geographical Magazine, May 1899, pp. 225–256 (with illustrations and a map).

† The type of *Nucifraga kamchatkensis* was shot by Dr. Bishop, of H.M.S. 'Linnet.'

sea-bird with a red breast. Later in the day we saw flocks of these fairy-like little birds, all dressed in the red livery of summer, and engaged either in flying over the sea with the sharp, quick wing-beats of a Sandpiper or in resting on the water with the cork-like buoyancy of a Petrel. I did not see among them any of the Red-necked species, *Phalaropus hyperboreus* (Linn.), so common on Bering Island, not 200 miles away, and which was abundant at sea off Avacha Bay on our return journey on August 31st, 1897. Both these Phalaropes are surprisingly tame and confiding in their habits while on shore, and at Tareinski Harbour on the 16th a bluejacket brought to me alive a specimen of the grey species, which he had secured by knocking it over with a stone. It was a male in the red-breasted plumage, which is not nearly so bright as that of the female. These were the only Grey Phalaropes which I met with, but the abundance of the species as seen off the coast makes one marvel that Dr. Stejneger, in his account of the birds of the country, could give no instance of its occurrence in the peninsula other than the record of a flock seen by himself near Bering Island on August 21, 1882 *, and the statement "that Merck observed this species, 'circa Camtschatcam,' according to Pallas" †.

The other species seen were mostly those with which I was already familiar, having met with them either off the coast of Yezo or in the Okhotsk Sea. Such were the Albatrosses, *Diomedea albatrus* Pall., of which we saw several, including an immature bird in the dark plumage inside Avacha Bay, near Petropavlovsk.

Fulmars, *Fulmarus glacialis glupischa* Stejn., in the grey phase prevalent in the western Pacific, were numerous, as they are at that season of the year in almost all parts of Bering's Sea and of the Pacific north of about lat. 45° N. which I have visited. Although this species comes quite close in to the shore both at the Commander Islands and at Robben Reef, I did not see it inside the mouth of Avacha Bay.

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* *Op. cit.* p. 140.

† *Op. cit.* p. 317.

Guillemots, *Uria lomvia arra* (Pall.), were everywhere to be seen, both in the open sea and in Avacha Bay, where they follow the fish into the inner recesses of the harbour. Many of them were gorged with food, and unable to rise from the water as the ship approached them.

With the Guillemots were the comical-looking Black Puffins, *Lunda cirrhata* (Pall.), in great abundance, a bird totally unrepresented by any corresponding species in the Atlantic. Like the Guillemots, they were so gorged with food as to be unable to rise from the sea at our approach. Yet they were in very great terror at the appearance of the ship, and either tried to escape by diving or flapped with might and main along the top of the water. Their bright red legs, carried with the feet close together behind them, gave them almost the appearance of having a red rump. Like the Guillemots, these birds, in their pursuit of fish, follow up the ramifications of Avacha Bay to quite a distance from the open sea.

Once I thought I saw some Black Ducks, perhaps *Œdemia deglandi* Bp., or *Œ. carbo* (Pallas), but I did not get a good enough view of them to make my observation certain, and I may well have been mistaken.

The next species which we fell in with was a Black Shag, *Phalacrocorax pelagicus* Pall., with black, forward-pointed crest and bare yellow face. Later a Cormorant, *P. bicristatus* Pall., flew by us, wearing the white egg-like spots of the breeding-season on its flanks. A few more Shags and Cormorants were observed later in the day, but they did not seem to be numerous about Avacha Bay, and I only saw a few, and did not obtain a specimen during my stay there. Strange to say, I once saw a single individual of each of these quite different species flying together as if mated.

At about the same time as we saw the Cormorants we came on a dark-mantled Gull, *Larus schistisagus* Stejn. Inside Avacha Bay this species was numerous, but I brought home only one specimen, a female, shot in Tareinski Harbour, which weighed 4 lbs. The sharp boundary between the range of this and *Larus glaucescens* Naum. is curious, the former being very numerous at Petropavlovsk, though it is unknown at Bering's Island, where the latter is equally abundant.

One or two Black Guillemots, *Cepphus columba* (Pall.) or *C. snowi* Stejn., were also met with, but this species is one of the least numerous in individuals of all the sea-birds of Bering Sea. The white-winged Guillemots of this sea and of the Kuril Islands were believed to be identical, until in 1897 Dr. Stejneger pointed out that there are two forms, and suggested the name *snowi* as suitable for that of the Kuril Islands. Both are distinct from *C. carbo* Pall., the wholly black form which frequents the Japanese waters.

Petropavlovsk is a mere village, with log-houses nestling close to the picturesque shores of Avacha Bay. Under the eaves of some of the log-houses we saw on this occasion the nests of the Brown-bellied Swallow, *Hirundo tytleri* Jerdon, but when we returned on August 27th, 1897, these birds had already left for the south. During our first visit, however, we spent very little time at Petropavlovsk itself, but retired from comparative civilization to the wilds of Tareinski Harbour, on the opposite side of Avacha Bay. Here the thick woods which grow right down to the edge of the loch, though to all appearance a regular botanical paradise, seemed to be rather destitute of bird-life; but the very denseness of the luxuriant undergrowth prevented me from penetrating to any great distance from the shore, or from seeing or securing specimens of the few small Passerine birds whose notes could be heard in the bushes. Such were a yellow Bunting-like bird, probably *Hypocentor aureolus* (Pall.), seen several times at Tareinski in 1896, but not obtained; a pair of very shy Siberian Bullfinches, *Pyrrhula pyrrhula kamtschatica* (Taczan.); and a pair of golden-winged Finches, possibly the Siskin, a bird, however, which does not seem to have been recorded from Kamchatka, although it occurs at the mouth of the Amoor.

One afternoon at Tareinski I constantly heard the song of a Bunting in the thick undergrowth near the edge of the loch, but could not see the songster. The bird sang in a manner very like that of our common Yellow-Hammer, but omitted the terminal portion of the song of that bird. Occasionally a small party of the Kamchatkan Titmouse were to be seen searching the trees for food, just like our own common species. A Magpie, *Pica kamtschatica* Stejn., and a Carrion-Crow, *Corvus corone levaillantii* (Less.), completed the list of woodland species. About the streams or at the water-edge the Grey and Pied Wagtails, *Motacilla melanope*, and probably *M. lugens*, were often to be seen, while a Sky-Lark, !*Alauda blakistoni*, was obtained in the open country near Petropavlovsk.

Wading birds were not numerous at Tareinski. On July 17th I shot a young Tattler, *Heteractitis incanus*, a bird which uttered no note, and at about the same time one of our party saw some Whimbrels or Curlews, but on the whole there was quite a remarkable absence of wading birds. On our autumn visit to Petropavlovsk in August 1897 we added to the list of species obtained, securing examples of that cosmopolitan species the Turnstone, *Arenaria interpres*, and a Whimbrel, *Numenius phæopus variegatus* (Scop.).

Ducks were very numerous, especially the conspicuously white-winged Goosander, or perhaps the Merganser, for no specimen was obtained, but, according to Dr. Stejneger, both species occur. Flocks of Wigeon, another species with white-barred wings, were also seen; but, strange to say, the only specimen which we shot, a female weighing 1½ lbs., proved to be an example of the American Wigeon, a stranger to Asia, and, I believe, the first known specimen from the western shores of Bering Sea.

In 1897 we obtained specimens of a Golden-eye, the common Wild Duck, and Teal; while Mr. Jacobleff, an employée of the Russian Fur-Seal Company at Petropavlovsk, has since sent me specimens of the Smew and of the Harlequin Duck. In fact, bird-life was far more plentiful on the water than on shore, and, besides the Black Puffins, and the Guillemots, Common and Black, which fished even in the innermost recesses of the harbour, we had here *Larus ridibundus* and *L. canus*, so well known in England, and the Pacific Kittiwake, *Rissa tridactyla pollicaris* Stejn. Skuas, too, were occasionally seen, the more frequent species being *Stercorarius crepidatus.* On the 17th, as we were leaving Avacha Bay, I thought I saw the long-tailed Buffon's Skua, but it is hard to identify the two species on the wing.

Terns were numerous, parties of old and young birds fishing together, especially in August 1897, over the small lagoon behind Petropavlovsk. They were very tame, and it was a pleasure to see their white forms and to hear their peevish cries, as with down-pointed beak they eagerly scanned the water, and, occasionally seeing a fish, dropped headlong downward like a Gannet. Specimens which we brought home have been identified as *Sterna longipennis* Nordm., by Mr. Howard Saunders.

The most conspicuous water-birds of Avacha Bay were the Divers, of perhaps two species: two obtained for me by Mr. Jacobleff proved to be the red-throated species, *Colymbus septentrionalis* Gm., but it was among the birds of prey that the most interesting species were to be observed. In Avacha Bay it was hardly ever possible to be out of sight of a pair or more of Ospreys, *Pandion haliaëtus.* The size of these birds, combined with their rather strongly contrasted upper and under sides, made them very conspicuous. A pair seen at Tareinski seemed to have a nest in a locality which the mosquitoes prevented me from visiting. Although very active and frequently on the wing, the Ospreys did not seem to be destructive to other birds, for the Gulls paid no attention to them, although one or other of the pair was nearly always circling around or hovering at a good height above the water. The fishing of these birds was by no means always rewarded by success. Often one would drop meteor-like for a distance as if intent on securing its prey, but the bird usually stopped, as if disappointed, before it reached the lake's surface, and then resumed its hovering. On July 16th I saw one of these large birds carrying something in its claws, so that they could not have been always so unsuccessful as I at first imagined; but it was not until August 1897 that I actually observed one descend to the water from a height, seize a fish in its claws, and, shaking the moisture from its pinions, bear its booty aloft.

Very conspicuous were the great Pallas's Sea-Eagles, *Thalassaëtus pelagicus*, of which a pair or two at least frequent the larger trees about Avacha Bay. Their powerful lemon-yellow bills and white shoulders make them easily recognizable at a distance. Once I saw an Osprey strike at an Eagle in the air, and the clumsily-flying king of birds seemed quite unable to retaliate while on the wing.

We saw no Owls among the woods, but Mr. Jacobleff procured me a specimen of Tengmalm's Owl, *Surnia ulula*, which seems to be identical with examples of the same species found in Europe.

In 1897 we stayed more in the immediate neighbourhood of Petropavlovsk. Among the hills behind the town birds were not numerous, and the few Warblers which were shot were unfortunately not preserved. The shooting-parties were not at all successful, those who went in pursuit of Duck being especially unfortunate. Others who took their way inland a bit secured a few of the fine Kamchatkan Capercaillie; and Willow-Grouse were also obtained on several occasions within walking-distance of the town.

But good sport was not to be obtained at Petropavlovsk in the summer months. For reindeer and bighorn a journey of two or three days into the mountains was said to be necessary, while the bears were inaccessible in the thick undergrowth. As a general rule, in Kamchatka a sportsman must not expect to get much return for his trouble, except in spring or autumn. In summer the mosquitoes are rampant, and the thick undergrowth serves the double purpose of effectually concealing the game and of obstructing their pursuer, while in winter the snow lies so thickly that the bears at all events are safely asleep beneath its sheltering mantle.

Of other birds Crows were common, and three Magpies were seen at the town on August 31st. Among the scrub and woods, Nutcrackers were seen on more than one occasion, flying with the peculiar soft, Crow-like flight of the family. Dr. Bishop, of H.M.S. 'Linnet,' most fortunately secured one, and on examination it has turned out to be a most interesting form, differing, as might have been expected, from all the hitherto known forms of Nutcracker.

The only other bird noted was a Sedge-Warbler, seen once in a marsh near the branch of Avacha Bay known as Rakova Harbour, and probably belonging to *Acrocephalus ochotensis* (Midd.), which Dr. Stejneger found to be "rather numerous in the vicinity of Petropavlovsk."

On August 21st, 1897, we ran up Ukinsk Bay, on our way to Karaga Harbour. Leaving the Guillemots, Black Puffins, and Fulmars of Bering Sea at the entrance to the inlet, we found inside it birds of several species, mainly Gulls and a few Terns, numerous. Red-necked Phalaropes were very plentiful, as elsewhere in Kamchatkan waters, Ducks of more than one kind were abundant, and even the high northern latitude seemed to be no bar to the presence of the Albatross, *Diomedea albatrus* Pall., a fine male of which we put up from his lazy slumbers on the water.

The shortness of our stay on shore at Karaga Harbour prevented us from making a large collection of birds. We found that, besides the birds already mentioned, a Crow—probably the same as that met with at Petropavlovsk—was fairly common, but no specimen was obtained. Close to the village flocks of large and very long-billed Curlews, *Numenius cyanopus* Vieill., found rich feeding on the berries or at the edge of a small lagoon. Two species of Gulls, *Larus ridibundus* and *L. canus*, were obtained, and the shooting party reported that they had found the breeding-place of one species in a marsh up the river. Of small birds, a Yellow and a Pied Wagtail, *Budytes flava* and *Motacilla ocularis*, were also plentiful, and two or three other small species were seen. Wading birds of several kinds were also obtained, *e. g.* the Turnstone, the Mongolian Plover, a Stint, and two species of Tattlers. But perhaps the most conspicuous bird of all here, as at Petropavlovsk, was a large Diver, probably the red-throated species, of which the long uncouth body, flying with back slightly bent downward and rapidly beating pinions, was hardly ever out of sight.

On August 22nd we steamed across to False Bay, an inlet of the western side of Karaginski Island facing the mainland. Here another small collection of birds was made, to which the sportsmen of the party contributed such birds as the Scaup and the fine King Eider. Some white Geese were seen, but these, as well as some large black Ducks reported from Karaga Harbour, were not secured, and, besides the Ducks, the mainstay of the bag, were a few couples of Willow-Grouse.

In the dense thickets of scrubby pine which clothe the island we were surprised to find small birds of several species rather plentiful, but the fact that we had come nearly to the end of our stock of cartridges did not improve our chances of procuring specimens in such a country. With a twelve-bore shot-gun and sporting cartridges charged with large shot our only weapon, and the quarry a set of little birds sitting at provokingly close quarters in thick bushes, the result of our efforts was often more disastrous to the poor birds than advantageous to our collection, and on more than one occasion we were strongly tempted to follow the example of our friends the natives—to lie down and eat berries. Still, it was near the end of our cruise, and no other cartridges were available, so we had to do our best, and succeeded in obtaining more or less mutilated examples of *Accentor montanellus* (Pall.), a young Lapland Bunting, a Pipit, *Anthus gustavi* Swinh., a Northern Chiffchaff, *Phylloscopus borealis* (Blas.), and a Kamchatkan Nightingale, *Erithacus calliope* (Pall.). The locality forms an extension of the known range of all these species, and the *Accentor* is an addition to the Kamchatkan avifauna, it not having been previously obtained at any locality nearer than Amoor Land (*vide* Brit. Mus. Cat. Birds, vol. vii. p. 654, where its habitat is given as from the Yenesei to the Amoor river). Richardson's Skua was seen or obtained both at Karaginski Island and at Karaga; in other respects the birds were identical. We were disappointed not to meet with any Eagles on the island, as it had been suggested that the rare *Haliaëtus hypoleucus* of Ridgway might occur there. But the western side of the island is quite unsuitable for Eagles, and if they occur at all it must be about the cliffs of the Bering's Sea coast.

We left Karaginski Island on our way south to Japan at 6 A.M. on August 24th, and reached Petropavlovsk at about noon on the 27th. The journey was uneventful, both as regards ornithology and otherwise, the only incident of interest to a naturalist being the visit of a Turnstone* to the ship at 6.30 P.M. on the 28th, at a time when we must have been somewhere in the neighbourhood (and probably north) of Cape Kronotski.

I append a list of the species brought home (69 specimens), most of which are now in the collection of the British Museum of Natural History. For 17 of the skins I am indebted to the kindness of Mr. Jacobleff, of Petropavlovsk. I am also under an obligation to Dr. R. Bowdler Sharpe and Mr. W. R. Ogilvie Grant, of the Bird Department of the British Museum of Natural History, who were good enough to identify for me the more difficult species. Mr. Howard Saunders has also examined the Tern, Gulls, and Skuas.

Wherever possible I have tried to give a description of the colours of the legs, feet, claws, iris, and bill of the specimens as noted down after they had been shot. I have also added the tints of the inside of the bill and of the fauces, the latter of which, so far as my experience goes, are comparatively seldom alluded to or noticed by naturalists, although they are often exceedingly beautiful, and sometimes, as in the case of the Guillemots, of quite unexpected tints. To give correct names to all the varied shades and hues of colouring is, I fear, beyond my powers, and the difficulties of describing specimens without a brush and paint are almost insurmountable. To select one instance alone, nothing but an elaborate and coloured drawing can give any true idea of the lavish mixture of various colours exhibited in summer by the bill of *Lunda cirrhata*; but I do not here repeat a description of the soft parts of this particular species, although I made a sketch of the bill, because they have already been given in detail by Dr. Stejneger. Realizing therefore the impossibility of attaining to exactness, I have thought it well not to amend the nomenclature of my original rough notes as regards the colours of the soft parts of the specimens, since after all the effect of the most elaborate scheme invented for the purpose cannot convey to the imagination one half the glories of some of these as seen in their original freshness. It must be borne in mind, however, that in many cases the colour of the same part varies in different individuals of the same species, even when obtained on the same date, so that when I have used different names for the same part of different individuals of the same species, I may often be quite correct in doing so.

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* Another Turnstone came on board the ship on August 31st, soon after we had left Avacha Bay for Japan, and on the same day a party of Curlews flew over, flying high in the same direction as the ship.

COLYMBUS LUMME (Gunnerius).

Nos. 1–2. Petropavlovsk, summer plumage (*Mr. Jacobleff*).

BRACHYRHAMPHUS PERDIX (Pallas).

No. 3. Petropavlovsk (*Mr. Jacobleff*). This species was not found in Kamchatka by Dr. Stejneger: it is, however, mentioned by Taczanowski.

CEPPHUS SNOWI Stejneger.

No. 4. In winter plumage, Petropavlovsk (*Mr. Jacobleff*).

No. 5. Juv. Described by Dr. Stejneger from the Kuril Islands (Auk, xiv. p. 201, 1897).

LUNDA CIRRHATA Pallas.

No. 6. ♀, Petropavlovsk, autumn of 1897 (*Mr. Jacobleff*).

LARUS SCHISTISAGUS Stejneger.

No. 7. ♀ adult, Avacha Bay, July 16, 1896. Weight 4 lbs. Colour of bill yellow, with a bright red spot at the angle of the lower mandible on each side, and the tips of both mandibles white; of iris lighter yellow than bill; of eyelids pink; of legs and feet light flesh; of claws horn with the tips lighter.

Dr. Stejneger describes the colour of the feet as "pinkish flesh-colour," and remarks that this character at once distinguishes *L. schistisagus* from *L. affinis*, which is said to have the feet yellow, and also from *L. marinus*, in which the flesh-colour is very pale and rather greyish. Very little seems to be known about the distribution of this species, nor did my trip to Ukinsk Bay add to our knowledge on that point, for I have no notes of having met with any large Gulls in that neighbourhood. It was described from Avacha Bay, in Southern Kamchatka, and only occurs as an occasional straggler on the neighbouring Commander Islands, where it is represented by the totally different *L. glaucescens* Naum. For the intermediate localities we had no certain record until Dr. Stejneger found it to be, next to the Kittiwake, the commonest breeding Gull of the Kurils*. It is therefore of interest to record that I saw numerous Black-backed Gulls, many in a light immature plumage, on Robben Island, Sakhalin, when I visited it on July 11, 1896, and that, although I did not obtain a specimen there, I distinctly noted that the colour of the legs of these Gulls was pink, so that in all probability they were *L. schistisagus*, since the colour of the legs of this species should be far more conspicuous and noticeable than are those of *L. marinus*. In Ukinsk Bay no adult large Gulls were seen. A young bird of the year, of the size and general appearance of the young of *L. glaucescens*, was observed near Karaga, but could not be identified on the wing.

LARUS CANUS Linn.

No. 8. ♀, Petropavlovsk, July 17, 1896. Colour of bill yellow, except the light horn tip of the upper mandible; of angle of gape and eye-ring vermilion; of iris light yellow; of legs and feet greenish yellow, the soles of the feet lighter.

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* ["*Hab.* Bering Sea, Okhotsk Sea, and North Pacific down to Northern Japan in winter. Headquarters appear to be about the Kuril Islands.' Saunders, Cat. B. Brit. Mus. xxv. p. 260 (1896).—EDD.]

No. 9. Sex not noted, Karaga Village, August 21, 1897. Colour of bill, both inside and outside, yellow; of gape, eye-ring, and soft parts of interior of mouth crimson; of legs light yellow; of claws a peculiar tint of yellowish horn. The descriptions of the colours having been taken from the note made by me at the time, I have not checked the nomenclature, and it will be noted that the parts of the 1896 bird called vermilion are in 1897 called crimson. There is probably, however, some variation in the tint of red of these parts, for in Stejneger's description of *L. kamtschatchensis* (Bp.) the eye-ring is called vermilion in one and dull reddish in another specimen.

No. 10. Juv., Karaga Village, August 21, 1897. Colour of bill a mixture of horn- and flesh-colour; of iris hazel; of legs and feet pale flesh; of claws horn.

It is rather refreshing to meet a species like this and the next, which, although occurring at the opposite ends of the Palæarctic Region, cannot be divided into subspecies. Dr. Stejneger had only one specimen of *L. canus* from Kamchatkan regions, and that was from Bering Island, and not from the mainland, to which the bird would therefore appear to be new. But I suspect that Dr. Stejneger would call my specimen *L. kamtschatchensis* (Bp.), a form which is not accepted by our British authorities, and which, if distinguishable, must be remarkably close to *L. canus*. *L. kamtschatchensis* is said to be not common in Kamchatka, where, however, it probably breeds. My Karaga specimens extend the range of the bird (under whichever name it is preferred to designate it). The breeding-place of Gulls found on the Karaga river was probably one belonging to this species, and the specimen no. 9 must have been bred in North Kamchatka. Among my birds from the Commander Islands is a straggler of *L. canus* in first plumage (according to Mr. Howard Saunders), obtained on Copper Island, August 20th, 1896.

LARUS RIDIBUNDUS Linn.

Nos. 11–12. Two ♂, in breeding-plumage, Petropavlovsk, July 17, 1896. Colour of bill, eyelids, and interior of mouth crimson; of iris brown; of legs and feet crimson brick; of claws brown.

No. 13. ♀, Karaga Village, August 21, 1897. Colour of bill, eyelids, and interior of mouth dull red (duller than the legs and feet); of iris brown; of legs and feet blood-red, exactly the colour of the bird's own blood.

The bill and feet seem to fade rapidly in the autumn. Dr. Stejneger notes an adult female obtained at Petropavlovsk, on September 18, 1883, in which the bill was pale salmon-red, with the tip in front of the nostrils dark brownish, and the feet and webs similarly coloured. On the other hand, an adult female obtained in the same locality on September 28th, 1883, had the bill and feet vermilion, the former somewhat dusky towards the tip.

STERNA CAMTSCHATIKA Pallas. [S. LONGIPENNIS Nordm.]

No. 14. ♂ nearly adult?, Petropavlovsk, August 28, 1897. Colour of bill dark horn, tinged with red, the red appearing especially at the base of the lower mandible; of interior of mouth light red; of legs deep red; of claws dark.

No. 15. ♂ juv., Petropavlovsk, autumn of 1897 (*Mr. Jacobleff*).

No. 16. ♀ juv., same date and locality. Colour of bill redder and lighter than in the older specimen (no. 14); of legs yellowish red.

Stejneger cites this species as not very numerous, although he found it both in May and autumn at the mouths of the rivers falling into Avacha Bay.

There is some question as to the colour of the feet of this Tern. Mr. Howard Saunders, who (Brit. Mus. Cat. vol. xxv. p. 68) says that they are "blackish," had evidently only dried skins before him, for Dr. Stejneger gives the colour of the legs of two adult females as "blackish red" and "dark reddish brown," a description which agrees so closely with my own that Dr. Stejneger would appear rather in the light of a hair-splitter when, in a review of my friend Mr. A. H. Evans's 'Birds,' he corrects the author for having used my information, and quoted my authority for the redness of the legs. Dr. Stejneger has not given us the colour of the legs of immature birds, but it would seem from my note that the legs become deeper red as the bird grows older, until, in the adult, the red is so deep that they dry to black in preserved specimens.

STERCORARIUS PARASITICUS. [S. CREPIDATUS.]

No. 17. ♂ * (!) of light form, Karaginski Island, August 22, 1897. Colour of soft parts black, except the fleshy base of the bill.

HÆMATOPUS OSCULANS Swinhoe.

No. 18. Petropavlovsk (*Mr. Jacobleff*).

ARENARIA INTERPRES (Linn.). [STREPSILAS INTERPRES.]

No. 19. Sexed ♂, Petropavlovsk, August 28, 1897.

Nos. 20–21. ♂ (!) and one unsexed, Karaginski Island, August 22 or 23, 1897. Colour of legs yellowish red.

No. 22. ♀, Karaga Village, August 21, 1897. Colour of bill horn; of iris and claws dark; of legs salmon-yellow.

ÆGIALITIS MONGOLA (Pallas).

No. 23. ♀ (!), Karaga Village, August 21, 1897. Colour of bill black; iris and claws dark; legs and feet greenish.

ACTODROMAS RUFICOLLIS (Pallas).

Nos. 24–29. 2 ♂ (!), 4 ♀ (!), Karaga Village, August 21, 1897. Colour of bill and legs black.

No. 30. ♀ (!), Karaginski Island, August 22 or 23, 1897. Colour of bill and legs black.

TEREKIA CINEREA (Güldenst.).

Nos. 31–32. ♂ (!) and one unsexed, Karaginski Island, August 22 or 23, 1897. Colour of legs yellow. Dr. Stejneger's only specimen of this bird was obtained on Bering Island.

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* The sign (!) is added to specimens which I skinned and sexed myself. It throws no doubt on the sexing of specimens not thus marked, which were skinned and sexed by various trustworthy local persons.

HETERACTITIS INCANUS (Gmel.).

No. 33. ♂ juv., Petropavlovsk, July 17, 1896. Colour of bill greenish horn, with the base dull yellow; iris brown; legs yellow.

This bird seems to be an addition to the list of species found on the Kamchatkan mainland, for, although known to Dr. Stejneger from the Commander Islands, it is included by him with ten other species in the list of "Birds, American or peculiar to the Commander Islands, which do not occur in Kamtschatka."

HETERACTITIS BREVIPES (Vieill.).

No. 34. ♂ (!), Karaga Village, August 21, 1897. Colour of bill greenish horn; of iris dark; of legs light yellow.

NUMENIUS CYANOPUS (Vieill.).

No. 35. Unsexed, Karaga Village, August 21, 1897. Colour of bill bluish horn, with the basal portion of the underside of the lower mandible fleshy; of iris brown; of legs and feet slate; of claws horn-brown.

This species was not obtained in Kamchatka by Dr. Stejneger, but it is known from the peninsula through the work of previous naturalists.

NUMENIUS PHÆOPUS VARIEGATUS (Scopoli).

No. 36. ♂, Petropavlovsk, about August 28, 1897.

PHALAROPUS LOBATUS (Linn.).

No. 37. Unsexed, Karaga Village, August 21, 1897. Colour of bill and iris dark; of legs and feet bluish horn.

No. 38. Unsexed, Karaginski Island, August 22 or 23, 1897.

CRYMOPHILUS FULICARIUS (Linn.).

No. 39. ♂ in breeding-plumage, Petropavlovsk, July 16, 1896. Colour of bill at base orange, at tip horn; of iris dark; of legs, feet, and claws horn, the legs washed here and there with yellowish.

I have already noted the abundance of these birds as seen on July 14th, 1896, and the almost total absence of previous records of its occurrence in or about Kamchatka. It is one of those birds whose distribution is peculiar; for instance, it is not known to breed on the Commander Islands.

DAFILA ACUTA (Linn.).

Nos. 40–41. Two unsexed, Karaginski Island, August 23, 1897.

MARECA AMERICANA (Gmelin).

No. 42. ♀, Avacha Bay, July 16, 1896. Weight 1½ lbs. Colour of bill, legs, and feet nearly black; of iris nut-brown.

As stated above, I believe this is the first known specimen of this species from the mainland of Asia. One other is recorded by Dr. Stejneger as having been picked up dead on Bering Island on May 1st, 1883.

FULIGULA MARILA (Linn.).

No. 43. ♀, Ukinsk Bay, August 21, 1897. Colour of bill bluish horn; of interior of mouth fleshy; of iris yellow.

This species presents us with another instance of the preservation of an identical form throughout a very wide range. From Japan southward and also in America it is represented by other subspecies.

CLANGULA GLAUCION (Linn.) or C. ISLANDICA (Gm.).

No. 44. ♀, Petropavlovsk, August 28, 1897. Colour of bill externally horn; of interior of mouth and bill flesh; of iris yellow; of legs and feet brownish yellow, with the webs, claws, soles of the feet, and back of the legs dark.

It appears to be extremely difficult, if not impossible, to distinguish between the females of *C. clangula* and *C. islandica* in certain stages of plumage; but since the latter species is not given by Dr. Stejneger as occurring in Kamchatka, my Petropavlovsk specimen, although doubtful, is probably the former.

HISTRIONICUS HISTRIONICUS (Linn.). [COSMONETTA HISTRIONICA.]

No. 45. ♀, Petropavlovsk, autumn of 1897 (*Mr. Jacobleff*).

HARELDA HYEMALIS (Linn.).

No. 46. ♀ juv., Petropavlovsk (*Mr. Jacobleff*).

No. 47. ♂, ditto.

ŒDEMIA CARBO (Pallas).

No. 48. ♂ adult, Petropavlovsk (*Mr. Jacobleff*). This species is, I think, an addition to the Kamchatka list.

HENICONETTA STELLERI (Pallas).

No. 49. ♂ adult, also two very young birds in an interesting stage of plumage, in which the speculum is just beginning to show.

SOMATERIA SPECTABILIS (Linn.).

Nos. 50–51. ♂ and pull., Karaginski Island, August 23, 1897. Colour (of ♂) of bill dull yellow of many shades and complicated arrangement, the exact tints varying in different places; of interior of mouth pale flesh; of iris light yellow; of legs and feet yellow, except the webs and the soles of the feet, which were dark; of claws horn.

Dr. Stejneger does not seem to have obtained a specimen of this species in Kamchatka, but it is mentioned by Steller, Pallas, and Taczanowski.

MERGUS ALBELLUS Linn.

No. 52. ♀, Petropavlovsk, autumn of 1897 (*Mr. Jacobleff*).

UROGALLUS PARVIROSTRIS KAMTSCHATIKUS (Kittlitz).

Nos. 53–54. 2 ♂, both in the moult, Petropavlovsk, August 14, 1897.

LAGOPUS RUPESTRIS (Gm.).

No. 55. ♂ (!), Karaginski Island, about August 20, 1897.

No. 56. One unsexed, Karaginski Island, August 23, 1897.

"The Ptarmigan found in the mountains of the peninsula has not been satisfactorily determined. It would be no surprise if it should prove to be distinct. It is pretty safe to say, however, that it is not typical *mutus*." So wrote Dr. Stejneger (*op. cit.* p. 319); but Mr. Ogilvie Grant, who kindly examined my birds for me, does not believe in the validity of the various species and subspecies of Ptarmigan into which some naturalists have divided the birds found in the Aleutian and the Commander Islands, and so it appears here as plain *L. rupestris*.

LAGOPUS LAGOPUS (Linn.).

No. 57. ♀, Karaga Village, August 21, 1897; also obtained at Petropavlovsk, but not preserved.

SURNIA ULULA (Linn.).

No. 58. One unsexed, Petropavlovsk, autumn of 1897 (*Mr. Jacobleff*).

This is another Kamchatkan species, no specimen of which had been seen by Dr. Stejneger, and which he suggested might be subspecifically distinct. My single specimen does not bear out this suggestion, and cannot be separated from ordinary examples.

ALAUDA BLAKISTONI Stejneger.

No. 59. ♀, Petropavlovsk, about August 28, 1897. Colour of bill light horn, darker on the upper surface of the upper mandible; of interior of mouth light yellow; of legs and feet fleshy, the soles light yellow; of claws horn.

NUCIFRAGA KAMCHATKENSIS Barrett-Hamilton (Bull. B. O. C. vol. vii. 1898, p. xlvi).

No. 60. One unsexed, Petropavlovsk, Kamchatka, about August 28, 1897.

Dr. Stejneger never had the series of Nutcrackers necessary to show the distinctness of the Kamchatkan bird. I was therefore pleased to be able to compare my single specimen with those in the British Museum, when it at once became evident that it belonged to a form not represented in that collection. The Kamchatkan bird is darker than *N. caryocatactes*, and has the remiges tipped or margined with white. From *N. multipunctata*, which it resembles in the size of the large white spots, it differs in the lesser area of the white tips of the rectrices.

A new species not only to the Kamchatkan, but to the

East Siberian avifauna; this does not, however, increase the number of Kamchatkan birds, since the Nutcracker was already well known to occur in the peninsula.

ACCENTOR MONTANELLUS (Pallas).

No. 61. One unsexed, Karaginski Island, August 23, 1897. This species should probably be added to the list of Palæarctic summer visitors (see Stejneger, *op. cit.* p. 349) which, although known to occur on the Chukchi Peninsula, have not yet been obtained in Kamchatka, and most of which, probably, do not occur there regularly. They are *Ægialitis hiaticula* (?), *Eudromias morinellus*, *Pelidna ferruginea*, *Eurynorhynchus pygmæus*, *Motacilla ocularis*, *Turdus iliacus* (?), *T. naumanni*, and *Saxicola œnanthe*, eight in all. The occurrence of a Central-Asiatic bird in the region north of Kamchatka is not, however, very surprising, when it is considered that nearly one-half of the birds of Northern Alaska are identical with those of North-eastern Siberia *.

CALCARIUS LAPPONICUS (Linn.).

No. 62. One juv. (unsexed), Karaginski Island, August 22 or 23, 1897.

Although the Lapland Bunting is numerous in summer on the Commander Islands, especially on Bering Island, Dr. Stejneger writes (*op. cit.* p. 251):—"About its occurrence in Kamtschatka I can only say that I met a single, exceedingly shy individual in the graveyard of Petropaulski during the first half of October."

ANTHUS GUSTAVI Swinhoe.

No. 63. ♂ (!) juv., Karaginski Island, August 23, 1897. Colour of bill horn, the lower mandible fleshy at its base; of gape yellow; of interior of mouth light yellow; of legs, feet, and claws fleshy horn.

BUDYTES FLAVA (Midd.).

No. 64. ♂ (!) juv., Karaga Village, August 22, 1897. Colour of bill, legs, and feet horn; of soles of feet yellow.

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* See Prof. Newton's 'Dictionary of Birds,' p. 332.

No. 65. ♀ (!), Karaginski Island, August 22 or 23, 1897.

The Kamchatkan bird is referred by Dr. Stejneger to the subspecies *B. f. leucostriatus* Homey., but he puts forward the suggestion that when its migration is thoroughly known it will be found to be an isolated form having no connection with the Alaskan *Budytes*.

Motacilla melanope Pallas.

No. 66. ♂, Avacha Bay, July 17, 1896. Colour of bill and iris dark; of legs and feet fleshy horn; of claws horn.

Motacilla ocularis Swinhoe.

No. 67. Uunsexed, Karaginski Island, August 22 or 23, 1897. Colour of bill dark horn, the base of the lower mandible lighter; of gape light yellow; of legs, feet, and claws black.

Phylloscopus borealis (Blasius).

No. 68. Unsexed, Karaginski Island, August 22 or 23, 1897. Colour of bill dark horn; of legs and feet light horn.

Erithacus calliope (Pall.).

No. 69. Unsexed, Karaginski Island, August 23, 1897. Colour of bill and legs horn.

XV.—*On* Œstrelata mollis (*Gould*) *and the Allied Species living at Madeira and the Cape Verde Islands.* By T. Salvadori, C.M.Z.S.

In the 'Annals and Magazine of Natural History,' vol. xiii. p. 363 (1844), Gould described a *Procellaria mollis*, which he had found very common in the Southern Seas between the 20th and 40th deg. S. lat. In the same year, G. R. Gray (Gen. B. iii. p. 648) expressed an opinion that the bird described by Gould was the same as *Procellaria melanopus* Gm.

S. N. i. p. 562, no. 16 (ex Latham's Black-toed Petrel); but this identification is far from being satisfactorily established.

Mr. Gould, in 1848, included in his 'Birds of Australia' also *P. mollis*, writing as follows:—"Although I have not seen it within sight of the shores of Australia, it doubtless occasionally visits them, for I observed it to be plentiful off the eastern end of the Islands of St. Paul and Amsterdam." These islands being quite in the middle of the Indian Ocean, Gould's surmise appears rather hazardous; still, from subsequent evidence, it seems that he was right.

In 1855, E. Vernon-Harcourt, in his paper, "Notes on the Ornithology of Madeira," included *P. mollis*, and all subsequent writers down to Salvin (Cat. B. Brit. Mus. vol. xxv.) and Dresser (Suppl. to the 'Birds of Europe'), treating of *P. mollis*, have admitted the specific identity of the specimens from Madeira with those from the Southern Seas.

Having had quite recently the opportunity of studying a collection of birds from the Cape Verde Islands, sent by the well-known traveller Signor Leonardo Fea, I found two specimens, exactly alike, of the genus *Œstrelata*, belonging to a species unknown to me, as, though resembling *Œ. mollis*, they appeared to me to be specifically different. Signor Fea had written on the label of one of the specimens that they belong to an uncommon species, but resident in the islands, known to the natives as "Gon-gon."

It occurred to me that the Cape Verde Islands bird might probably be of the same species as that of Madeira; and wishing to ascertain this point I wrote to Prof. A. Newton, asking him to send me for inspection two specimens collected in Madeira in 1853 by Dr. Frere, belonging to the Museum of Cambridge. On receiving these two birds their specific identity with those from the Cape Verde Islands was quite obvious. These four North-Atlantic specimens I was able to compare with four southern ones of *Œ. mollis*, three collected during the voyage of the 'Magenta' (Gigl. et Salvad., Atti Soc. Ital. Sc. Nat. xi. (1868), p. 457; iid. Ibis, 1869, p. 66), and a fourth from the seas off the Cape of Good Hope, received from Verreaux by the late

Count Turati—the last being an immature bird, while the three others are fully adult.

The comparison of these specimens shows quite clearly that the southern birds are smaller, have constantly the grey pectoral band, more or less pronounced, and have the sides of the body less freckled with grey. The northern birds are larger, have no grey band across the breast, and the sides of the body more freckled with grey.

It seems also that the habits of the two species are different: the southern birds being quite pelagic, while the northern birds, according to Signor Fea's statements, are more nocturnal, resorting to their stony furrows on the mountains at day, and going to sea at night.

Convinced of the specific value of the differences pointed out, I have accordingly named the northern bird *Œstrelata feæ* (see p. 302).

I add the full synonymy and the descriptions of the two species, together with some remarks on their geographical distribution.

ŒSTRELATA MOLLIS (Gould).

Procellaria mollis Gould, Ann. N. H. xiii. p. 363 (20th to 40th deg. S. lat.) (1844); id. B. Austr. vii. pl. 50 (1848); Rchnb. Nov. ad Syn. Av. *Natatores*, t. 25. ff. 2606–7 (ex Gould) (Dec. 1850); Licht. Nom. Av. p. 100 (Süd-See) (1854); Layard, Ibis, 1862, p. 98 (lat. 44° S., long. 138° E.); Schleg. Mus. P.-B., *Procellaria*, p. 11 (Mer de l'Australie) (1863); Pelz. Reise 'Novara,' Zool. i. Vög. p. 146 ("Indischer Ocean, gegen St. Paul zu, ? Stiller Ocean, nächst Neu-Seeland") (1865); Hutton, Ibis, 1865, p. 287 (S. Ocean), 1867, pp. 188, 191 (between lat. 35° 40′ S., long. 4° 28′ W., and lat. 39° 30′ S., long. 25° E.); ? Finsch, J. f. Orn. 1870, p. 373 (part. ex Pelzeln); ? Hutton, Cat. B. New Zeal. p. 47 (1871); Layard, Ibis, 1872, p. 337 (lat. 8° 40′ N., long. 34° 31′ W.); Finsch, J. f. O. 1872, p. 255; Buller, Hist. B. of New Zeal., Introd. p. xv (1873); Finsch, J. f. O. 1874, p. 207; Cab. et Rchnw. J. f. O. 1876, p. 329 (part., lat. 32° 11′ N., long. 59° 41′ E., lat. 33° 26′ S., long. 79° 42′ E.); Gieb. Thes. Orn. iii. p. 306 (syn. emend.) (1877).

Procellaria melanopus G. R. Gr. Gen. B. iii. p. 648, no. 5 (1844) (nec Gm.? *); id. List Anseres Brit. Mus. p. 164 (1844).

Cookilaria mollis Bp. Consp. ii. p. 190 (1855) (syn. emend.); Giglioli, Viaggio Magenta, pp. 106, 736, 800 (1875).

Rhantistes mollis Bp. Compt. Rend. xlii. p. 786, no. 25 (1856).

Œstrelata mollis Gould, Handb. B. Austr. ii. p. 453 (1865); Coues, Pr. Ac. Philad. 1866, pp. 150, 170; Gigl. & Salvad. Atti Soc. Ital. Sc. Nat. xi. p. 457 (1868); iid. Ibis, 1869, p. 66; Gigl. Fauna Vert. Oceano, pp. 42, 82 (lat. 42° 47′ S., long. 3° 26′ E.—lat. 40° 42′ S., long. 53° 20′ E. (1870); Ridgw. Man. N. Am. B. p. 63 (1887).

Fulmarus (Cookilaria) mollis G. R. Gray, Hand-list, iii. p. 107, no. 10897 (1871).

Œstrelata mollis Sharpe, Phil. Trans. clxvii. p. 128 (1877); Eaton, ibid.; Salvin, Ibis, 1877, p. 480 (critical); id. P. Z. S. 1878, p. 738 (Nightingale I.); id. Voy. 'Chall.,' Zool. ii. pt. viii. p. 144 (1881); ? Layard, Ibis, 1882, pp. 539, 544 (New Caledonia, breeding); Sharpe, ed. Layard's B. of S. Afr. p. 766 (seas off the Cape) (1884); Buller, Hist. B. of New Zeal. (2nd ed.) ii. p. 222 (1888); ? id. Tr & Pr. New Zeal. Inst. xxiii. p. 41 (1891) (Sunday I., Kermadec Group?, and Otago); Salvin, Cat. B. Brit. Mus. xxv. p. 406 (part.) (1896); Sharpe, Hand-list Gen. & Spec. of B. i. p. 125, no. 9 (partim: Southern Ocean) (1899); Hall, Ibis, 1900, p. 24 (Kerguelen I.).

Pterodroma (Œstrelata) mollis Ramsay, Pr. Linn. Soc. N. S. W. ii. p. 202, no. 710 (Tab. List B. Austr. p. 26, no. 710) (Tasmania?) (1878).

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* It is extremely doubtful whether the following references belong to *Œ. mollis*:

Black-toed Petrel Lath. Syn. iii. 2, p. 408, no. 12 (North America); Penn. Arct. Zool., Suppl. p. 73; Lath. Gen. Hist. x. p. 185.

Procellaria melanopus Gm. S. N. i. p. 562, no. 16 (1788) (ex Latham); Lath. Ind. Orn. ii. p. 824, no. 12 (1790); Bonn. Enc. Méth. i. p. 79, no. 15 (1790); Vieill. N. D. xxv. p. 420 (1817).

Puffinus? melanopus Steph. in Shaw, Gen. Zool. xiii. pt. 1, p. 231 (1826).

Œstrelata philippi Saunders (nec Gr.), P. Z. S. 1880, p. 164 (lat. 37° 59′ S., long. 29° 18′ E.).

Minor; supra fusco-cinerea, alis obscurioribus; fronte albo-varia; corpore subtus albo, sed fascia pectorali transversa cinerea ornato; lateribus vix cinereo variis. Long. tot. circa mm. 330; al. 255; caud. 105; tarsi 32; rostri culm. 28–29.

Hab. in Oceano Atlantico et Indico australi.

This species is confined to the Southern Seas, especially the Southern Atlantic and Southern Indian Oceans, between the 20th and the 50th parallels; the most western point where it has been found being Nightingale Island, near Tristan da Cunha. In the Indian Ocean it probably lives round Kerguelen Island; by Gould it is mentioned from the seas off the eastern end of St. Paul and Amsterdam Islands; in the British Museum there is one specimen from North-west Australia and others (doubtfully) from South Australia. Prof. Giglioli, during the voyage of the 'Magenta,' met with this species between latitudes 42° 47′ and 40° 42′ S. and longitudes 3° 26′ and 53° 20′ E., and again in the South Australian seas from lat. 37° 22′ S., long. 112° 5′ E., nearly to the entrance of Port Phillip.

The presence of *Œ. mollis* in the seas north of New Zealand is open to doubt, and I should say that the specimens from New Caledonia—where, according to Layard, *Œ. mollis* breeds on Mount Mou—also require comparison.

ŒSTRELATA FEÆ, Salvad.

Procellaria mollis Harcourt (nec Gould), Ann. & Mag. N. H. xx. p. 438 (Madeira) (1855); Newt. Ibis, 1863, p. 186 (Madeira); Harting, J. f. O. 1886, p. 457.

Œstrelata mollis Dalgleish, Ibis, 1890, p. 386 (Ilha de Baixo, off Porto Santo); Hartwig, Ornis, vii. pp. 181 (Porto Santo), 187 (Deserta Grande) (1891); id. J. f. O. 1891, p. 433; Dalgleish, Pr. R. Phys. Soc. Edinb. xi. p. 29 (Ilha de Cal, Deserta Grande) (1892); Hartwig, J. f. O. 1893, pp. 11 (Desertas), 12; Salv. Cat. B. Brit. Mus. xxv. p. 406 (part., Madeira*) (1896); Dresser, Suppl. to B. of Eur.

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* In the British Museum there are no specimens of *Œ. mollis* or of *Œ. feæ* from Madeira.

p. 411 (partim), pl. 721 (figura optima) (Madeira) (1896); Sharpe, Hand-list Gen. & Species of B. i. p. 125, no. 9 (part., Madeira) (1899).

"*Gon-gon*" of the inhabitants of São Nicolao, Fea, Boll. Soc. Geogr. Ital. (3) xii. p. 23 (Cape Verde I.) (1899).

Œstrelata feæ Salvad. Ann. Mus. Civ. Gen. (2) xx. p. 305 (Cape Verde I.) (1899).

Œstrelata Œ. molli (Gould) simillima, sed major, corpore subtus albo, haud fascia pectorali cinerea ornato, lateribusque magis griseo variis, diversa.

Supra fusco-grisea; collo postico et laterali, dorso, et scapularibus anterioribus magis grisescentibus, plumarum marginibus griseis; supracaudalibus griseis, lateralibus ad apicem albo variis; plumis frontis albo marginatis; macula ante- et suboculari nigricante; loris antice, parte ima genarum, mento, gula, collo antico, pectore, abdomine, et subcaudalibus albis; plumis colli laterum fusco-cinereis albo limbatis; lateribus corporis et axillaribus anterioribus tenuissime cinereo marmoratis: alis fuscis, tectricibus majoribus griseo tinctis; remigibus in pogonio interno vix pallidioribus; axillaribus longioribus fusco-cinereis, fere concoloribus: cauda cinerea, rectricibus externis, præcipue extima, albo punctulatis: rostro nigro; tarsis et parte basali digitorum cum membrana interdigitali pallidis (albidis?); pedibus aliter nigris. Long. tot. circa mm. 380; al. 280; caud. rectr. med. 110, rectr. ext. 77; rostri culm. 30; tarsi 33; digiti ext. cum ungue 35.

Hab. in Oceano Atlantico boreali, circa ins. Madeiram et Cape Verde dictas.

Most probably *Œ. feæ* is confined to the islands off the western coast of Africa, north of the Equator. Up to the present time it has been found only on the small islands round Madeira, and quite recently by Signor Leonardo Fea in the Cape Verde Islands; but it is not unlikely that it will be met with also on some of the Canaries, where it may have escaped notice on account of its nocturnal habits.

From what we know of the geographical distribution of the two allied species, *Œ. mollis* and *Œ. feæ*, it appears that the first not only never crosses the Equator, but has never been found north of the 20th or perhaps of the 30th parallel, so that the areas of the two species are widely separated.

XVI.—*On the Birds collected during an Expedition through Somaliland and Southern Abyssinia to the Blue Nile.* By W. R. Ogilvie Grant. *With Field-notes by* Lord Lovat *.—Part II.

[Plates IV.–VI.]

[Continued from p. 178.]

168. Mesopicus spodocephalus.

Dendrobates poicephalus Rüpp. Syst. Uebers. p. 86, pl. 34 (1845).

Mesopicus spodocephalus (Bonap.); Hargitt, Cat. B. Brit. Mus. xviii. p. 370 (1890).

The immature female is in very worn plumage and differs from the adult in having the back mostly brownish, tinged here and there with golden yellow, the breast and belly indistinctly barred with white, with only a trace of the red stripe down the middle.

This species is new to the British Museum Collection.

a. ♀. Burka, Abyssinia, 6 January, 1899. (No. 129.)
b. ♂. Tchlea, „ 8 March, 1899. (No. 383.)
c. ♀ juv. Blue Nile, 13 May, 1899. (No. 507.)

Iris brown; bill and legs slate-colour.

169. Campothera nubica.

Campothera nubica (Gm.); Hargitt, Cat. B. Brit. Mus. xviii. p. 93 (1890); Sharpe, P. Z. S. 1895, p. 492; Lort Phillips, Ibis, 1898, p. 415 (N. Somaliland); Hawker, Ibis, 1899, p. 74.

a. ♂. Kassim river, Abyssinia, 19 January, 1899. (No. 234.)

Iris brown; bill and legs dark brown.

170. Dendropicus simoni.

Dendropicus simoni Grant, Bull. B. O. C. vol. x. p. xxxviii (1900).

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* *Sporæginthus margaritæ* Weld-Blundell & Lovat (see Ibis, 1900, p. 130, pl. iii. fig. 1) is synonymous with *Estrilda ochrogaster* Salvad. Boll. Mus. Torino, xii. no. 287, p. 4 (1897). The latter description had been overlooked till Captain Shelley kindly called my attention to it. The species should stand as *Sporæginthus ochrogaster* (Salvad.).

a. ♀ [undoubtedly ♂ ad.]. Konduro, Abyssinia, 25 March, 1899. (No. 449.) [*Type of the species.*]

[*Adult male.*] Allied to the male of *D. zanzibari* Malh., but easily distinguished by the following characters:—The forehead and fore-part of the crown are darker brown; the cross-bars on the interscapular region and back indistinct and of a dull greenish-white colour; the wing-coverts brownish black, the lesser and median with a white spot at the extremity; the white feathers of the sides of the head and ear-coverts *striped with black on either side,* those of the throat with narrow black shaft-stripes; the chest and breast more strongly marked and the *upper surface* of the shafts of the primary and secondary quills, except the extreme basal portion, *brown.* Iris brown; bill dark slate; legs slate. Total length about 5·5 inches, culmen 0·7, wing 3·2, tail 1·6, tarsus 0·6.

171. DENDROPICUS ABYSSINICUS.

Dendropicus abyssinicus (Stanl.); Hargitt, Cat. B. Brit. Mus. xviii. p. 303 (1890).

a. ♂. Burka, Abyssinia, 6 January, 1899. (No. 128.)

Iris brown; bill and legs dark brown.

172. DENDROPICUS HEMPRICHI.

Dendropicus hemprichi (Ehr.); Hargitt, Cat. B. Brit. Mus. xviii. p. 299 (1890); Sharpe, P. Z. S. 1895, p. 491; Hawker, Ibis, 1899, p. 74.

Dendromus hemprichi Lort Phillips, Ibis, 1898, p. 414 (N. Somaliland).

a. ♂. Ketchen Waha, Abyssinia, 16 January, 1899. (No. 203.)

b. ♀. Kassim river, Abyssinia, 18 January, 1899. (No. 226.)

a. Iris brown; bill and legs black.

b. Iris brown; bill dark; legs slate-colour.

173. THRIPIAS SCHOENSIS.

Thripias schoensis (Rüpp.); Hargitt, Cat. B. Brit. Mus. xviii. p. 308 (1890); Sharpe, P. Z. S. 1895, p. 491.

a. ♀. Hargeisa, Somaliland, 13 December, 1898. (No. 9.)

Iris brown; bill and legs black.

174. Iÿnx torquilla.

Iynx torquilla Linn.; Hargitt, Cat. B. Brit. Mus. xviii. p. 560 (1890); Hawker, Ibis, 1899, p. 74 (Somaliland).

a. ♂. Ganti, Abyssinia, 28 March, 1899. (No. 458.)

Iris light hazel; bill dark; legs light brown.

175. Iÿnx æquatorialis.

Iynx æquatorialis Rüpp. Syst. Uebers. p. 93, pl. 37 (1845); Hargitt, Cat. B. Brit. Mus. xviii. p. 567 (1890).

This handsome species of Wryneck has long been a desideratum to the British Museum Collection.

a. ♂. Burka, Abyssinia, 6 January, 1899. (No. 127.)
b. ♀. Baroma, „ 10 January, 1899. (No. 149.)

a. Iris light hazel; bill dark; legs light brown.
b. Iris light hazel; bill and legs dark brown.

[A widely-distributed bird, though it was seldom that more than one pair were seen in a day.—L.]

176. Indicator lovati.

Indicator lovati Grant, Bull. B. O. C. vol. x. p. xxxix (1900).

a. ♀. Gelongol, Abyssinia, 13 March, 1899. (No. 406.) [*Type of the species.*]

Adult female. Resembles *I. minor* Steph. in the colour of the upper parts, wings, and tail, but differs from that species in having the heavy black moustachial streaks confluent on the chin; the throat dull grey, with a slight greenish tinge, uniform in colour with the breast, and the longer flank-feathers dark smoky brown, edged with white on the sides. From *I. conirostris* (Cass.), which it approaches in the latter characters, it may be at once distinguished by the greyish-brown colour of the head and neck and the much duller yellow colouring of the back and wing-coverts. Iris brown; bill and legs black. Total length about 6·0 inches, culmen 0·5, wing 3·5, tail 2·25, tarsus 0·55.

[This Honey-guide was shot at daybreak perched on the outside of a rotten tree; just on a level with its head was a small orifice into which it darted its bill at intervals of perhaps two seconds. I afterwards saw one of the same species distinctly lead a party of Shonkalas up to a bees'-nest full of honey, which was dug out, a portion of the comb being given to the bird. At the time we were at Beni Schongul (April), the bird was nesting, and a pair flitted all round our camp most of the day, but never uttered the peculiar quick call they make use of when leading the way to honey. The Shonkalas in camp paid no attention to them on this occasion, as they said, "The birds are nesting; they will not find us honey."—L.]

177. MELANOBUCCO ABYSSINICUS.

Melanobucco abyssinicus (Lath.); Shelley, Cat. B. Brit. Mus. xix. p. 22 (1891).

a. ♂. Chercher, Abyssinia, 12 January, 1899. (No. 174.)

b. ♀. Ticka Tcheeka, Abyssinia, 22 February, 1899. (No. 364.)

Iris brown; bill and legs black.

178. MELANOBUCCO UNDATUS.

Melanobucco undatus (Rüpp.); Shelley, Cat. B. Brit. Mus. xix. p. 27 (1891).

a. ♂. Jumjum, Abyssinia, 4 March, 1899. (No. 379.)

Iris pale yellow; bill and legs black.

The bird before us, which is apparently a very old male, differs somewhat from any example of this species in the British Museum Collection. The black on the top of the head is continued over the neck on to the upper part of the back; the underparts are nearly pure white, more regularly barred with darker black, and washed with yellow down the middle of the breast and belly.

179. MELANOBUCCO LEUCOGENYS.

Melanobucco leucogenys Weld-Blundell & Lovat, Bull. B. O. C. vol. x. p. xxi (1899).

a. ♂. Konduro, Abyssinia, 25 March, 1899. (No. 445.)

b. ♂. Konduro, Abyssinia, 25 March, 1899. (No. 446.) [*Types of the species.*]

Though neither of the types of this species of Barbet are fully adult birds, there can, I think, be no doubt that they represent a form hitherto unknown. Allied to *M. undatus* (Rüpp.), they may be at once recognized by having the hinder parts of the cheeks and sides of the neck pure white, the middle of the throat white tinged with yellow, some of the feathers being tipped with scarlet, and the outer margins of the remiges and rectrices, as well as the tips of the upper tail-coverts, golden yellow, instead of pale whitish yellow (Naples yellow). Iris pale yellow; bill and legs black. Total length about 5·8 inches, culmen 0·75, wing 3·1, tail 1·9, tarsus 0·7.

180. MELANOBUCCO ÆQUATORIALIS.

Melanobucco æquatorialis Shelley, Cat. B. Brit. Mus. xix. p. 19 (1891).

This bird belongs to the small form; wing 3·75, tail 2·9.

a. ♂. Bilo, Abyssinia, 10 March, 1899. (No. 392.)

Iris brown; bill pale yellow, tinged with red on lower mandible; legs black, light at joint.

181. TRICHOLÆMA MELANOCEPHALUM.

Tricholæma melanocephalum (Cretzsch.); Shelley, Cat. B. Brit. Mus. xix. p. 30 (1891).

a. ♂. Kassim river, Abyssinia, 19 January, 1899. (No. 238.)

Iris brown; bill and legs black.

182. BARBATULA MINUTA.

Barbatula minuta Bonap.; Shelley, Cat. B. Brit. Mus. xix. p. 40 (1891); Hawker, Ibis, 1899, p. 75 [Somaliland].

a. ♂. Acabsiyo, Somaliland, 17 December, 1898. (No. 14.)

b. ♀. Tra, Abyssinia, 7 January, 1899. (No. 132.)

Iris brown; bill and legs black.

183. BARBATULA XANTHOSTICTA. (Plate III. fig. 2.)

Barbatula xanthosticta Weld-Blundell & Lovat, Bull. B. O. C. no. lxvi. p. xxi (1899).

a, b. ♂ ♀. Tchlea, Abyssinia, 8 March, 1899. (Nos. 381, 382.) [*Types of the species.*]

Though nearly allied to *B. extoni* (Layard) from South-east Africa, this species may be distinguished by having the white middles to all the feathers of the interscapular region and back tipped with golden yellow. Iris brown; bill and legs black. Total length about 4·0 inches, culmen 0·54, wing 2·35, tail 1·25, tarsus 0·55.

The sexes are perfectly similar one to another in plumage.

184. Trachyphonus margaritatus.

Trachyphonus margaritatus (Rüpp.); Shelley, Cat. B. Brit. Mus. xix. p. 103 (1891); Lort Phillips, Ibis, 1898, p. 415.

a. ♂. Gadaburka, Abyssinia, 22 January, 1899. (No. 258.)

Iris brown; bill red-brown; legs dark brown.

185. Schizorhis leucogaster.

Schizorhis leucogaster (Rüpp.); Shelley, Cat. B. Brit. Mus. xix. p. 452 (1891); Sharpe, P. Z. S. 1895, p. 495; Lort Phillips, Ibis, 1898, p. 416.

a. ♂. Hawash, Abyssinia, 17 January, 1899. (No. 214.)

Iris brown; bill and legs black.

[This bird does not truly belong to the highlands of Shoa; it was met with only in the Hawash plain—a country as dry and burnt up as the Somali coast.—L.]

186. Schizorhis zonura.

Schizorhis zonura (Rüpp.); Shelley, Cat. B. Brit. Mus. xix. p. 491 (1891).

a. ♂. Arriro, Abyssinia, 19 February, 1899. (No. 350.)

b. ♀. Bilo, Abyssinia, 11 March, 1899. (No. 398.)

Iris brown; bill yellow; legs black.

[This bird inhabits the valleys of Shoa, and is widely distributed.—L.]

187. Turacus donaldsoni.

Turacus donaldsoni Sharpe, P. Z. S. 1895, p. 495, pl. xxviii.

a. ♂. Warabili, Abyssinia, 3 January, 1899. (No. 96.).

Iris brown; bill and eyelids bright red; legs black.

[This Plantain-eater is to be seen in the thick woods, though occasionally it is met with on high trees in the open.

I am inclined to believe that the Touracos seen in the Dabous valley belong to a different species, the white and red marking on the head appearing slightly different. Owing to the want of cartridges, I had no opportunity of verifying this; but I mention the fact for the benefit of future travellers.—L.]

188. CENTROPUS SUPERCILIOSUS.

Centropus superciliosus (H. & E.); Shelley, Cat. B. Brit. Mus. xix. p. 363 (1891); Sharpe, P. Z. S. 1895, p. 494.

a. ♀. Laga Hardim, Abyssinia, 15 January, 1899. (No. 200.)

b. ♀. Ticka Tcheeka, Abyssinia, 22 February, 1899. (No. 363.)

Iris red; bill black, *a.* legs steel-blue; *b.* dark slate-colour.

189. CENTROPUS MONACHUS.

Centropus monachus (Rüpp.); Shelley, Cat. B. Brit. Mus. xix. p. 359 (1891).

a. ♂ imm. Baroma, Abyssinia, 11 January, 1899. (No. 159.)

b. ♀ ad. Telagubaie, Abyssinia, 17 February, 1899. (No. 325.)

a. ♂. Culmen 1·4 inches, wing 7·3, tail 9·3.

b. ♀. Culmen 1·4 inches, wing 7·4, tail 9·1.

Iris red; bill and legs black-brown.

The immature male (specimen *a*) is referred to this species with some doubt; the bill is slightly smaller than that of the female, and though the upper tail-coverts are barred with buff, the wings and the rest of the plumage show no trace of immaturity; the top of the head and back of the neck are, moreover, dark green, with a slight purplish-blue tinge on some of the feathers. This difference in colour may, however, be due to wear.

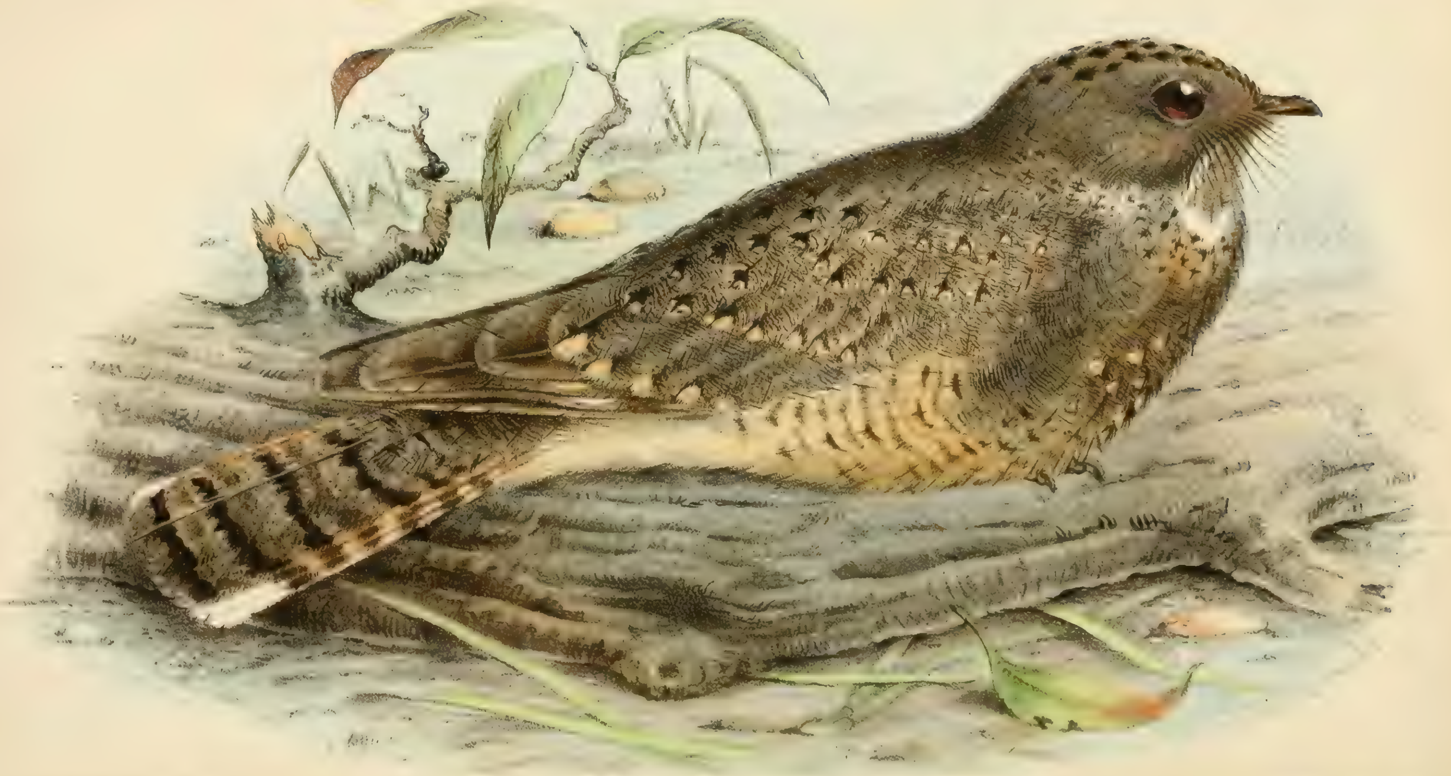
190. COLIUS LEUCOTIS.

Colius leucotis (Rüpp.); Sharpe, Cat. B. Brit. Mus. xvii. p. 341 (1892); id. P. Z. S. 1895, p. 502.

a. ♂. Harrar, Abyssinia, 27 December, 1898. (No. 41.)

Iris brown; bill black; legs red.

Ibis. 18[illegible] Pl. IV.



H. Grönvold del. et lith.

CAPRIMULGUS STELLATUS.

Mintern Bros. imp.

191. Tachornis parva.

Tachornis parva (Licht.); Hartert, Cat. B. Brit. Mus. xvi. p. 463 (1892); Sharpe, P. Z. S. 1895, p. 503.

a. Famaka, Blue Nile, 9 May, 1899. (No. 504.)

Iris brown; bill and legs black.

192. Caprimulgus poliocephalus.

Caprimulgus poliocephalus Rüpp. Neue Wirbelth. Vög. p. 106 (1835); id. Syst. Uebers. p. 15, pl. iv. (1845); Hartert, Cat. B. Brit. Mus. xvi. p. 546 (1892).

a. ♂ ad. Akake, Abyssinia, 24 January, 1899. (No. 273.)

Iris brown; bill black; legs dark brown.

So far as I am aware, the only previously known example of this rare Goatsucker is the type in the Frankfort Museum: the adult male bird before us agrees exactly with Rüppell's description. This species is of course new to the British Museum Collection.

[Seen occasionally.—L.]

193. Caprimulgus stellatus. (Plate IV.)

Caprimulgus stellatus Weld-Blundell & Lovat, Bull. B.O.C. vol. x. p. xxi (1899).

a. ♂ ad. Kassim river, Abyssinia, 17 January, 1899. (No. 222.) [*Type of the species.*]

This very distinct species is perhaps most nearly allied to *C. griseatus* Gray, from the Philippine Islands. It has the general colour of the upper parts earthy brown, with very fine vermiculations of black and greyish, most distinct on the head and neck; each feather of the crown and scapulars ornamented near the extremity of the shaft with a star-shaped black spot margined externally with buff, the external buff markings being especially conspicuous on the scapulars; the wing-coverts and innermost secondaries similarly ornamented with buff, edged internally with black; the markings on the remiges very similar to those of *C. griseatus*, but the white markings on the four outer primaries much narrower, and the red bars on the inner quills much wider and more distinct; the underparts very similar to those of *C. griseatus*, but the chest and breast darker and more uniform; the two outer pairs of tail-feathers black, irregularly barred with rufous and with only the terminal part (0·8 inch) of both webs white. Iris brown; bill black; legs brown. Total length about 10·0 inches, exposed part of culmen 0·45, wing 6·1, tail 4·3, tarsus 0·72.

[I believe this Goatsucker to be not uncommon in Shoa: it is rather lighter in colour than *C. poliocephalus*, and I believe that I saw it more than once, about dusk and in the early morning.—L.]

194. SCOTORNIS CLIMACURUS.

Scotornis climacurus (Vieill.); Hartert, Cat. B. Brit. Mus. xvi. p. 596 (1892).

a. ? Blue Nile, 15 May, 1899. (No. 522.)

Iris brown; bill and legs dusky.

[A very common bird on the Blue Nile, large numbers coming down to drink at the river just after the time of the Sand-Grouse. This Nightjar drinks like the Swallow and Swift. Captain Hunter kindly shot two specimens for me.—L.]

195. MACRODYPTERYX MACRODIPTERUS.

Macrodypteryx macrodipterus (Afzel); Hartert, Cat. B. Brit. Mus. xvi. p. 594 (1892).

a. ♂. Wama, Abyssinia, 12 March, 1899. (No. 404.)
b. ♂. Mendi, „ 31 March, 1899. (No. 466.)
c. ♂ imm. Mendi, Abyssinia, 2 April, 1899. (No. 470.)
d. ♂. „ „ 3 April, 1899. (No. 473.)
e. ♂ imm. „ „ 4 April, 1899. (No. 476.)

Iris, bill, and legs dark brown.

[On the wing the male of this curious Goatsucker looks like a bird followed by two small bats attached to it by strings. When at rest the two elongate racquet-shaped quills were always extended beyond the tail, and the bird was never observed to erect them vertically above the back: indeed it seems impossible that it should be able to do so. These long wing-feathers apparently give it a great advantage in seeking its food, as the crop was always found full of night-beetles and flying-bugs even at early dusk.

This bird was met with only in the valley of the Nile and its tributaries.—L.]

196. Melittophagus pusillus.

Melittophagus pusillus (P. L. S. Müller); Sharpe, Cat. B. Brit. Mus. xvii. p. 47, pl. i. fig. 5 (1892).

a. ♂. Gelongol, Abyssinia, 13 March, 1899. (No. 409.)
b. ♀. Blue Nile, „ 13 May, 1899. (No. 506.)
Iris red; bill black; legs dusky.

197. Melittophagus sharpii.

Melittophagus cyanostictus Sharpe (nec Cab.), Cat. B. Brit. Mus. xxvii. p. 48 (1892); id. P. Z. S. 1895, p. 501; Lort Phillips, Ibis, 1898, p. 418 [N. Somaliland]; Hawker, Ibis, 1899, p. 76.

Melittophagus sharpei Hartert, Bull. B. O. C. vol. x. p. xxvii (1899).

a, b. ♂ ♀. Hargeisa, Somaliland, 13 December, 1898. (Nos. 4, 5.)

c. Acabsiyo, Somaliland, 17 December, 1898. (No. 16.)

d. ♂. Feyambiro, Abyssinia, 25 December, 1898. (No. 33.)

e. ♂. Laga Hardim, Abyssinia, 15 January, 1899. (No. 198.)

Iris red; bill black; legs dusky in *a* and *b*, black in *c* and *d*, dark brown in *e*.

198. Melittophagus lafresnayi.

Melittophagus lafresnayii (Guérin); Sharpe, Cat. B. Brit. Mus. xvii. p. 49 (1892).

a. ♀. Chercher, Abyssinia, 12 January, 1899. (No. 173.)
Iris red; bill black; legs dark brown.

199. Melittophagus bullocki.

Melittophagus bullocki (Vieill.); Sharpe, Cat. B. Brit. Mus. xvii. p. 51 (1892).

a. ♂. Blue Nile, 13 May, 1899. (No. 505.)
b. Ad. Blue Nile, 15 May, 1899. (No. 523.)
Iris brown; bill and legs black.

200. Melittophagus revoilii.

Melittophagus revoilii (Oustalet); Sharpe, Cat. B. Brit. Mus. xvii. p. 54 (1892); id. P. Z. S. 1895, p. 502.

a. ♂. Gobeyla, Somaliland, 11 December, 1898. (No. 1.)

Iris red; bill and legs black.

201. Merops apiaster.

Merops apiaster (Linn.); Sharpe, Cat. B. Brit. Mus. xvii. p. 63 (1892); id. P. Z. S. 1895, p. 501.

a. ♀. Gelongol, Abyssinia, 13 May, 1899. (No. 405.)

202. Merops nubicus.

Merops nubicus Gm.; Sharpe, Cat. B. Brit. Mus. xvii. p. 85 (1892); id. P. Z. S. 1895, p. 501.

a. ♂. Telagubaie, Abyssinia, 17 February, 1899. (No. 329.)

b. ♀. Arriro, Abyssinia, 19 February, 1899. (No. 345.)

c, d. ♂ ♀. Bilo, „ 10 March, 1899. (Nos. 385, 386.)

e. ♀. Mendi, Abyssinia, 4 April, 1899. (No. 474.)

f. ♂. Blue Nile, 16 May, 1899. (No. 510.)

g, h. ♂ ♀. Roseires, Blue Nile, 20 May, 1899. (Nos. 518, 519.)

Iris red; bill black; legs in *a*, *b*, *c*, and *d* black, in *e* dark brown, in *f*, *g*, *h* dusky.

203. Upupa epops.

Upupa epops L.; Salvin, Cat. B. Brit. Mus. xvi. p. 4 (1892); Hawker, Ibis, 1899, p. 76 [Somaliland].

a. ♂. Chercher, Abyssinia, 12 January, 1899. (No. 175.)

b. ♂. Famaka, Blue Nile, 9 May, 1899. (No. 503.)

Iris brown; bill black; legs light slate-colour.

204. Irrisor erythrorhynchus.

Irrisor erythrorhynchus (Lath.); Salvin, Cat. B. Brit. Mus. xvi. p. 19 (1892); Sharpe, P. Z. S. 1895, p. 500; Lort Phillips, Ibis, 1898, p. 417 [N. Somaliland]; Hawker, Ibis, 1899, p. 76.

a. ♂. Bilo, Abyssinia, 10 March, 1899. (No. 393.)

Iris brown; bill black; legs red.

205. Rhinopomastus minor.

Rhinopomastus minor (Rüpp.); Salvin, Cat. B. Brit. Mus. xvi. p. 26 (1892); Sharpe, P. Z. S. 1895, p. 500; Lort Phillips, Ibis, 1898, p. 417 [N. Somaliland]; Hawker, Ibis, 1899, p. 76.

♀. Abyssinia, 15 January, 1899. (No. 197.)

Iris brown; bill orange; legs black.

206. Bucorax abyssinicus.

Bucorax abyssinicus (Bodd.); Grant, Cat. B. Brit. Mus. xvii. p. 349 (1892); Sharpe, P. Z. S. 1895, p. 499.

a. ♀. Kassim river, Abyssinia, 19 January, 1899. (No. 246.)

Iris brown; bill and legs black; skin on throat dark slate-blue.

207. Lophoceros hemprichi.

Lophoceros hemprichi Ehr.; Grant, Cat. B. Brit. Mus. xvii. p. 405 (1892); Sharpe, P. Z. S. 1895, p. 498.

a. ♂. Feyambiro, Abyssinia, 26 December, 1898. (No. 37.)

b. ♂. Arriro, Abyssinia, 18 February, 1899. (No. 336.)

a. Iris brown; bill red-brown.

b. Iris brown; upper mandible dark brown, lower red-brown; legs black.

208. Lophoceros nasutus.

Lophoceros nasutus (Linn.); Grant, Cat. B. Brit. Mus. xvii. p. 406 (1892).

a. ♂. Gerru, Abyssinia, 6 February, 1899. (No. 297.)

Iris brown; bill black with white markings; legs black.

[This Hornbill was often seen to hawk for locusts. I once saw one of these birds with a snake 14 inches long in its bill, and it was not easy to make out which of them appeared to be in the greater difficulty.—L.]

209. Lophoceros erythrorhynchus.

Lophoceros erythrorhynchus (Temm.); Grant, Cat. B. Brit. Mus. xvii. p. 409 (1892).

Lophoceros medianus Sharpe, P. Z. S. 1895, p. 498; Lort Phillips, Ibis, 1898, p. 417; Hawker, Ibis, 1899, p. 75.

I have again compared specimens of *L. medianus* Sharpe with typical examples of *L. erythrorhynchus* Temm., from Senegal, and can find no difference between the two in either plumage or size.

a. ♂. Kassim river, Abyssinia, 18 January, 1899. (No. 231.)

Iris brown; bill red-brown; legs black.

210. Bycanistes cristatus.

Bycanistes cristatus (Rüpp.); Grant, Cat. B. Brit. Mus. xvii. p. 417 (1892).

a. ♂. Bilo, Abyssinia, 10 March, 1899. (No. 396.)

Iris brown; bill dusky; casque dirty ivory-white; legs black.

211. Ceryle rudis.

Ceryle rudis (Linn.); Sharpe, Cat. B. Brit. Mus. xvii. p. 109 (1892); id. P. Z. S. 1895, p. 496.

a. ♀. Akake, Abyssinia, 24 January, 1899. (No. 275.)

b. ♂. Roseires, Blue Nile, 19 May, 1899. (No. 516.)

Iris brown; bill and legs black.

212. Ceryle maxima.

Ceryle maxima (Pall.); Sharpe, Cat. B. Brit. Mus. xvii. p. 118 (1892).

a. ♂. Philwaha, Abyssinia, 16 February, 1899. (No. 324.)

Iris brown; bill and legs black.

213. Alcedo semitorquata.

Alcedo semitorquata Swains.; Sharpe, Cat. B. Brit. Mus. xvii. p. 153 (1892).

a. ♀. Telagubaie, Abyssinia, 17 February, 1899. (No. 330.)

Iris brown; bill black, lower mandible red at base; legs bright red.

214. Corythornis cyanostigma.

Corythornis cyanostigma (Rüpp.); Sharpe, Cat. B. Brit. Mus. xvii. p. 163 (1892).

a. ♂. Mendi, Abyssinia, 1 April, 1899. (No. 467.)

Iris brown; bill and legs bright red.

215. HALCYON SEMICÆRULEA.

Halcyon semicærulæa (Forskål); Sharpe, Cat. B. Brit. Mus. xvii. p. 232 (1892); id. P. Z. S. 1895, p. 497.

a. ♂. Ganti, Abyssinia, 30 March, 1899. (No. 465.)

Iris brown; bill and legs red.

216. HALCYON CHELICUTENSIS.

Halcyon chelicutensis (Stanley); Sharpe, Cat. B. Brit. Mus. xvii. p. 239 (1892); id. P. Z. S. 1895, p. 497; Hawker, Ibis, 1899, p. 76.

a. ♀. Kassim river, Abyssinia, 18 January, 1899. (No. 228.)

b. ♀. Telagubaie, Abyssinia, 17 February, 1899. (No. 331.)

c. ♀. Didesa, Abyssinia, 21 March, 1899. (No. 434.)

d. ♀. Sati, Abyssinia, 30 March, 1899. (No. 462.)

Iris brown; upper mandible dark, lower red; legs in *a*, brown, in *b*, *c*, and *d* dull red.

217. CORACIAS ABYSSINICUS.

Coracias abyssinicus Bodd.; Sharpe, Cat. B. Brit. Mus. xvii. p. 19 (1892).

a. ♂. Kassim river, 19 January, 1899. (No. 233.)

b, c, d, e. ♀ ♂ ♂ ♂. Ticka Tcheeka, Abyssinia, 22 February, 1899. (Nos. 358, 359, 360, 361.)

f. ♂. Gelongol, Abyssinia, 13 March, 1899. (No. 410.)

Iris brown; bill black; legs dull yellow.

[This Roller was to be met with in every valley of Shoa.—L.]

218. CORACIAS LORTI.

Coracias lorti Shelley; Sharpe, Cat. B. Brit. Mus. xvii. p. 20 (1892); id. P. Z. S. 1895, p. 496; Lort Phillips, Ibis, 1898, p. 416.

a. ♂. Hargeisa, Somaliland, 13 December, 1898. (No. 8.)

Iris brown; bill black; legs horn.

[Never met with in Abyssinia, where its place is taken by *Coracias abyssinicus*.—L.]

219. Coracias nævius.

Coracias nævius Daud.; Sharpe, Cat. B. Brit. Mus. xvii. p. 24 (1892); id P. Z. S. 1895, p. 496; Lort Phillips, Ibis, 1898, p. 416; Hawker, Ibis, 1899, p. 75.

a. ♂. Ticka Tcheeka, Abyssinia, 22 February, 1899. (No. 362.)

Iris brown; bill black; legs dull yellow.

[This Roller was seen only on the western side of Shoa, and then rarely.—L.]

220. Eurystomus afer.

Eurystomus afer (Lath.); Sharpe, Cat. B. Brit. Mus. xvii. p. 30 (1892).

a. ♀. Guatti, Abyssinia, 27 March, 1899. (No. 452.)

Iris brown; bill yellow; legs greenish yellow.

[This Roller was seen only in the Nile Valley, where its hoarse note makes it easily distinguishable. On the Blue Nile large numbers of these or very similar birds were seen towards dusk, chasing moths after the manner of Nightjars.—L.]

221. Pœocephalus flavifrons.

Pœocephalus flavifrons (Rüpp.); Salvad. Cat. B. Brit. Mus. xx. p. 369 (1891).

a. ♀. Burka, Abyssinia, 6 January, 1899. (No. 130.)

Iris orange-red; upper mandible dark, lower light brown; legs dark brown.

222. Pœocephalus rufiventris.

Pœocephalus rufiventris (Rüpp.); Salvad. Cat. B. Brit. Mus. xx. p. 372 (1891); Sharpe, P. Z. S. 1895, p. 494.

a. ♂. Kassim river, Abyssinia, 19 January, 1899. (No. 235.)

Iris orange-brown; bill and legs dark.

223. Agapornis tarantæ.

Agapornis tarantæ (Stanl.); Salvad. Cat. B. Brit. Mus. xx. p. 509 (1891).

a. ♀. Chelunco, Abyssinia, 4 January, 1899. (No. 105.) Iris brown; bill red; legs dark brown.

224. Bubo lacteus.

Bubo lacteus (Temm.); Sharpe, Cat. B. Brit. Mus. ii. p. 33 (1875); id. P. Z. S. 1895, p. 503.

a. ♀. Arriro, Abyssinia, 18 February, 1899. (No. 337.) Iris brown; bill pale blue.

[Seen in the Gedda Valley, but not observed elsewhere. A similar but much larger species of the "Eagle Owl" kind (probably *Bubo cinerascens* Guér.) was observed at Lake Chercher; though stalked with some care, such was its sharpsightedness that it was impossible to get even within rifleshot after it had once been alarmed.—L.]

225. Glaucidium perlatum.

Glaucidium perlatum (Vieill.); Sharpe, Cat. B. Brit. Mus. ii. p. 209 (1875); id. P. Z. S. 1895, p. 504; Hawker, Ibis, 1899, p. 77.

a. ♂. Kassim river, Abyssinia, 18 January, 1899. (No. 227.)

b. ♀. Roseires, Blue Nile, 20 May, 1899. (No. 520.)

[This Owl was observed only on the lower plains. It appears to be little troubled by daylight, and the one shot at Kassim at midday had just caught and killed a grass-snake.—L.]

226. Melierax polyzonus.

Melierax polyzonus (Rüpp.); Sharpe, Cat. B. Brit. Mus. i. p. 88 (1874).

a. ♂. Burka, Abyssinia, 7 January, 1899. (No. 137.) Bill black; cere orange-red; legs orange-red.

[Met with everywhere throughout our journey.—L.]

227. Melierax gabar.

Melierax gabar (Daud.); Sharpe, Cat. B. Brit. Mus. i. p. 89 (1874); id. P. Z. S. 1895, p. 506; Hawker, Ibis, 1899, p. 77.

a. ♂. Blue Nile, 15 May, 1899. (No. 509.) Iris brown; bill black, orange at the base; legs orange.

228. MELIERAX NIGER.

Melierax niger (Vieill.); Sharpe, Cat. B. Brit. Mus. i. p. 91 (1874); id. P. Z. S. 1895, p. 506; Lort Phillips, Ibis, 1898, p. 419; Hawker, Ibis, 1899, p. 77.

a. ♀. Kassim river, Abyssinia, 20 January, 1899. (No. 245.)

Iris red-brown; bill black; cere yellow; legs orange.

229. BUTASTUR RUFIPENNIS.

Butastur rufipennis Sund.; Sharpe, Cat. B. Brit. Mus. i. p. 299 (1874).

a. ♂. Beni Schongul, Abyssinia, 2 May, 1899. (No. 490.)

Iris yellow; bill blue at tip, at base and round eye yellow; legs yellow.

230. BUTEO AUGUR.

Buteo augur (Rüpp.); Sharpe, Cat. B. Brit. Mus. i. p. 175 (1874); id. P. Z. S. 1895, p. 507.

a. ♀ imm. Gadaburka, Abyssinia, 21 January, 1899. (No. 252.)

b. ♂. Borumeda, Abyssinia, 9 February, 1899. (No. 309.)

c. ♀. Borumeda, Abyssinia, 13 February, 1899. (No. 311.)

a. ♀ imm. Iris brown; bill steel-blue; legs yellow.

b. ♂. Very old bird. Iris brown; bill black, base yellow; legs dark yellow.

♀ adult. Iris brown; bill dark blue; base and corners of mouth yellow; legs yellow.

[This Buzzard was met with throughout Abyssinia on the highland plateaux as well as on the plains.—L.]

231. POLIOHIERAX SEMITORQUATUS.

Poliohierax semitorquatus (Smith); Sharpe, Cat. B. Brit. Mus. i. p. 370 (1874); id. P. Z. S. 1895, p. 510; Lort Phillips, Ibis, 1898, p. 420; Hawker, Ibis, 1899, p. 78.

a. ♂. Hawash, Abyssinia, 17 January, 1899. (No. 211.)
b. ♀. „ „ „ „ (No. 212.)

Iris brown; bill bluish, dark at tip; legs orange-red.

[This little Falcon was met with only twice on the low ground bordering the Donkali Plain.—L.]

232. CERCHNEIS TINNUNCULUS.

Cerchneis tinnunculus (L.); Sharpe, Cat. B. Brit. Mus. i. p. 425 (1874); id. P. Z. S. 1895, p. 510; Lort Phillips, Ibis, 1898, p. 420.

a. ♀. Arriro, Abyssinia, 19 February, 1899. (No. 346.)

Iris brown; bill blue; legs yellow.

233. CERCHNEIS ARDESIACUS.

Cerchneis ardesiacus Bonn.; Sharpe, Cat. B. Brit. Mus. i. p. 446 (1874).

a. ♂. Beni Schongul, Abyssinia, 3 May, 1899. (No. 491.)

Iris brown; bill blue; cere yellow; legs yellow.

234. LOPHOAËTUS OCCIPITALIS.

Lophoaëtus occipitalis Daud.; Sharpe, Cat. B. Brit. Mus. i. p. 275 (1874).

a. ? Arriro, Abyssinia, 18 February, 1899. (No. 334.)

[This bird inhabits the higher plateaux: a similar Crested Eagle without the conspicuous white marking on the primaries was observed by both Mr. Harwood and myself at Burka.—L.]

235. GYPAËTUS BARBATUS.

Gypaëtus barbatus (Linn.); Sharpe, Cat. B. Brit. Mus. i. p. 228 (1874).

a. ♂. Borumeda, Abyssinia, 12 February, 1899. (No. 310.)

Iris ash-fawn; bill greenish grey; legs whitish yellow.

236. PHALACROCORAX AFRICANUS.

Phalacrocorax africanus (Gm.); Grant, Cat. B. Brit. Mus. xxvi. p. 407 (1898).

a. ? Arriro, Abyssinia, 18 February, 1899. (No. 335.)

Iris brown; upper mandible dark brown, lower dark yellow; legs black.

237. Plotus rufus.

Plotus rufus Lacép.; Grant, Cat. B. Brit. Mus. xxvi. p. 412 (1898).

a. Wings only. Didesa river, Abyssinia, 21 March, 1899. (No. 440.)

Bill yellowish horn; legs pale yellow.

238. Pelecanus rufescens.

Pelecanus rufescens (Gm.); Grant, Cat. B. Brit. Mus. xxvi. p. 474 (1898).

a. ♀. Lake Chercher, Abyssinia, 12 January, 1899. (No. 178.)

Iris yellow, mottled with brown; bill light slate-colour; pouch greenish white; legs yellowish white.

[One pair only of these Pelicans was seen on Lake Chercher, the species not having been met with again until the Blue Nile was reached. The isolated position of this lake and the absence of any stream of any magnitude out of it makes one wonder how these great unwieldy birds could have found their way there.—L.]

239. Chenalopex ægyptiacus.

Chenalopex ægyptiacus (Linn.); Salvad. Cat. B. Brit. Mus. xxvii. p. 167 (1895); Sharpe, P. Z. S. 1895, p. 510.

a. ♂. Lake Harrar Meyer, Abyssinia, 31 December, 1898. (No. 59.)

Iris orange-brown; bill pink, edges black; legs pinkish white.

240. Casarca rutila.

Casarca rutila (Pall.); Salvad. Cat. B. Brit. Mus. xxvii. p. 177 (1895).

a. ♂. Damai Damash, Abyssinia, 23 February, 1899. (No. 370.)

Iris brown; bill and legs black.

241. Anas undulata.

Anas undulata Dubois; Salvad. Cat. B. Brit. Mus. xxvii. p. 212 (1895).

Anas undata Sharpe, P. Z. S. 1895, p. 511.

a. ♂. Lake Harrar Meyer, Abyssinia, 31 December, 1898. (No. 58.)

Iris light hazel; bill yellow; nail and middle between nostrils black; legs black with yellow showing through.

[This bird was found both on the lakes of Harrar Meyer and Chercher, and also on the main streams of the high plateaux. It is tamer than any of the other Ducks, and the Western Gallas, I was told, sometimes kill it by throwing sticks somewhat similar in shape to the Australian boomerang.—L.]

242. ANAS SPARSA.

Anas sparsa Smith; Salvad. Cat. B. Brit. Mus. xxvii. p. 213 (1895).

a. Gedda, Abyssinia, 1 February, 1899. (No. 287.)

Iris brown; bill dark brown; legs and toes yellow; webs dusky.

[Seen only on the small streams of the high central Abyssinian plateaux. This Duck was not observed in the larger rivers, which teamed with the Yellow-billed Duck (*Anas undulata*), the small Grey Goose, Teal, and Wigeon.—L.]

243. MARECA PENELOPE.

Mareca penelope (Linn.); Salvad. Cat. B. Brit. Mus. xxvii. p. 227 (1895).

a. ♀. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 83.)

b. ♀. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 84.)

c. ♂. Lake Gedda, Abyssinia, 4 February, 1899. (No. 302.)

a. ♀. Iris hazel; bill dark slate-colour; legs slate-colour.
b. ♀. „ white; „ „
c. ♂. „ brown; „ „

244. NETTION CRECCA.

Nettion crecca (Linn.); Salvad. Cat. B. Brit. Mus. xxvii. p. 243 (1895).

a. ♂. Lake Harrar Meyer, Abyssinia, 31 December, 1898. (No. 62.)

b. ♀. Lake Harrar Meyer, Abyssinia, 31 December, 1898. (No. 63.)

Iris brown; bill black; legs light slate-colour.

245. NETTION PUNCTATUM.

Nettion punctatum (Burch.); Salvad. Cat. B. Brit. Mus. xxvii. p. 265 (1895).

a. ♂. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 81.)

Iris brown; bill and legs dark slate-colour.

246. DAFILA ACUTA.

Dafila acuta (Linn.); Salvad. Cat. B. Brit. Mus. xxvii. p. 270 (1895).

a. ♂. Karrafino, Abyssinia, 24 February, 1899. (No. 372.)

Iris brown; bill black; legs dark slate-colour.

247. PŒCILONETTA ERYTHRORHYNCHA.

Pœcilonetta erythrorhyncha (Gm.); Salvad. Cat. B. Brit. Mus. xxvii. p. 285 (1895).

a. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 78.)

Iris brown; bill dull red, centre and edges black; legs black and dark yellow.

248. QUERQUEDULA CIRCIA.

Querquedula circia (Linn.); Salvad. Cat. B. Brit. Mus. xxvii. p. 293 (1895).

a. ♂. Lake Harrar Meyer, Abyssinia, 31 December, 1898. (No. 60.)

Iris brown; bill dark slate; legs slate-colour.

249. SPATULA CLYPEATA.

Spatula clypeata (Linn.); Salvad. Cat. B. Brit. Mus. xxvii. p. 306 (1895).

a. ♂. Lake Harrar Meyer, Abyssinia, 31 December, 1898. (No. 61.)

b. ♀. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 86.)

a. ♂. Iris yellow; bill black; legs deep orange.

b. ♀. Iris light hazel; bill brown; legs dull orange.

250. NYROCA AFRICANA.

Nyroca africana (Güldenst.); Salvad. Cat. B. Brit. Mus. xxvii. p. 345 (1895).

a. ♀. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 85.)

Iris light hazel; bill and legs dark slate-colour.

251. FULIGULA FULIGULA.

Fuligula fuligula (Linn.); Salvad. Cat. B. Brit. Mus. xxvii. p. 363 (1895).

a. ♂ (obviously adult ♀). Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 87.)

b. ♂. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 88.)

Iris yellow; bill and legs dark slate-colour.

[These Ducks were common on Lakes Harrar Meyer and Chercher, but not seen on the rivers and small hill-lochs of the higher Abyssinian plateaux.—L.]

252. HAGEDASHIA HAGEDASH.

Hagedashia hagedash (Lath.); Sharpe, Cat. B. Brit. Mus. xxvi. pp. 19, 265 (1898).

a. ♀. Mendi, Abyssinia, 4 April, 1899. (No. 475.)

b. ♂. Famaka, Blue Nile, 8 May, 1899. (No. 501.)

Iris in *a*, inner ring brown, outer white; in *b* yellow; bill black, ridge of culmen dark red; legs black, front of legs and toes dark red.

253. PLEGADIS FALCINELLUS.

Plegadis falcinellus (Linn.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 29 (1898).

Head and legs only.

254. ARDEA MELANOCEPHALA.

Ardea melanocephala Vig. & Childr.; Sharpe, Cat. B. Brit. Mus. xxvi. pp. 70, 268 (1898).

a. ♂. Lake Chercher, Abyssinia, 11 January, 1899. (No. 161.)

Iris yellow; upper mandible black, lower light; legs black.

255. BUBULCUS LUCIDUS.

Bubulcus lucidus (Rafin.); Sharpe, Cat. B. Brit. Mus. xxvi. pp. 213, 282 (1898).

a. ♂. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 89.)

Iris yellow; bill yellow; legs, below joint brown, above yellow.

256. Scopus umbretta.

Scopus umbretta Gm.; Sharpe, Cat. B. Brit. Mus. xxvi. p. 288 (1898).

a. ♀. Waha Zinzero, Abyssinia, 4 February, 1899. (No. 290.)

Iris brown; bill and legs dark brown.

257. Abdimia abdimii.

Abdimia abdimii (Licht.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 292 (1898).

a. ♂. Mendi, Abyssinia, 14 April, 1899. (No. 482.)

Iris brown; bill dull sage-green, red at tip; throat red; sides of face blue, front of eye red; legs greenish, dark brownish red at joint and toes.

258. Dissura episcopus.

Dissura episcopus (Bodd.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 294 (1898).

a. ♂. Philwaha, Abyssinia, 17 February, 1899. (No. 333.)

Iris red; bill dark red and black; legs black.

259. Neotis denhami.

Neotis denhami Childr.; Sharpe, Cat. B. Brit. Mus. xxiii. p. 302 (1894).

a. Head and neck of this very rare species.

Iris brown; culmen dark, sides light slate-colour, all the underside of bill white; legs pale yellow.

Total length (measured in the flesh) 43·0 inches; expanse of wing 84·0.

260. Lissotis lovati.

Lissotis lovati Grant, Bull. B. O. C. vol. x. p. xxxix (1900).

a. ♂. Bilo, Abyssinia, 10 March, 1899. (No. 397.) [*Type of the species.*]

Adult male. Most nearly allied to *L. melanogaster* (Rüpp.), which it resembles in general appearance, but the *middle* *three-fifths of the outer webs of the secondaries are pure white* to the shaft. In this respect it approaches *L. hartlaubi* (Heugl.), but the differently-marked plumage of the upper parts, as well as the black rump and tail, serve to distinguish the latter species at a glance. Iris pale yellowish brown; bill dark; legs pale yellowish white. Total length about 23 inches, culmen 1·95, wing 13·8, tail 7·6, tarsus 5·1.

The type is a male in the fullest adult plumage, and I think there can be no doubt that it represents a perfectly distinct species intermediate between *L. melanogaster* and *L. hartlaubi.*

261. EUPODOTIS KORI.

Eupodotis kori Burch.; Sharpe, Cat. B. Brit. Mus. xxiii. p. 324 (1894); Hawker, Ibis, 1899, p. 79.

a. Head only.

262. ŒDICNEMUS AFFINIS.

Œdicnemus affinis Rüpp.; Sharpe, Cat. B. Brit. Mus. xxiv. p. 17 (1896); Lort Phillips, Ibis, 1898, p. 421.

The measurement of the tarsus, 3·7 inches, is rather in excess of that given in the Catalogue.

a. Jiffa Uri, Somaliland, 18 December, 1898. (No. 18.)

Iris yellow; bill yellow at base, black at tip; legs yellow, brown in front.

263. ŒDICNEMUS SENEGALENSIS.

Œdicnemus senegalensis Swains.; Sharpe, Cat. B. Brit. Mus. xxiv. pp. 10, 721 (1896).

a. ♂. Didesa, Abyssinia, 21 March, 1899. (No. 439.)

b. ♀. Famaka, Blue Nile, 7 May, 1899. (No. 500.)

a. Iris yellow; bill black, base yellow; legs yellowish white.

b. Iris pale yellow; bill black, base pale yellow; legs pale yellow.

264. PLUVIANUS ÆGYPTIUS.

Pluvianus ægyptius (Linn.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 32 (1896).

a. ♀. Didesa river, Abyssinia, 21 March, 1899. (No. 435.)

Iris brown; bill black; legs light blue.

265. GALACTOCHRYSEA EMINI.

Galactochrysea emini (Shelley); Sharpe, Cat. B. Brit. Mus. xxiv. pp. 64, 726 (1896).

a. ♀. Didessa river, Abyssinia, 21 March, 1899. (No. 436.)

Iris brown; base of bill dark red, tip black; legs dark red.

266. STEPHANIBYX MELANOPTERUS.

Stephanibyx melanopterus (Cretzschm.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 180 (1896).

a. ♂. Garsa, Abyssinia, 3 January, 1899. (No. 102.)

b. ♂. Allu. ,, 26 February, 1899. (No. 374.)

a. Iris, inner circle green, outer yellow; bill black; legs dark red.

b. Iris pale yellow; bill black; legs red above the joint, dark red-brown below.

267. LOBIVANELLUS SENEGALENSIS.

Lobivanellus senegalensis Linn.; Sharpe, Cat. B. Brit. Mus. xxiv. pp. 141, 733 (1896).

a. ♂. Mendi, Abyssinia, 13 April, 1899. (No. 481.)

Iris greyish yellow; eyelid yellow; wattle dark red above, yellow below; bill yellow, black at tip; legs pale yellow.

268. TYLIBIX MELANOCEPHALUS.

Tylibyx melanocephalus (Rüpp.); Sharpe, Cat. B. Brit. Mus. xxiv. pp. 153, 734 (1896).

a. ♀. Borumeda, Abyssinia, 9 February, 1899. (No. 308.)

Iris yellowish grey; eyelid dark yellow; wattle light yellow; bill black, light yellow at base; legs bright yellow.

269. HOPLOPTERUS SPINOSUS.

Hoplopterus spinosus (Linn.); Sharpe, Cat. B. Brit. Mus. xxiv. pp. 157, 734 (1896).

a. ♂. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 90.)

b. ♀. Famaka, Blue Nile, 6 May, 1899. (No. 496.)

c. ♀. Roseires, ,, 19 May, 1899. (No. 515.)

Iris red; bill and legs black.

270. TRINGOIDES HYPOLEUCUS.

Tringoides hypoleucus (Linn.); Sharpe, Cat. B. Brit.

Mus. xxiv. pp. 456 & 762 (1896); Lort Phillips, Ibis, 1898, p. 423; Hawker, Ibis, 1899, p. 80.

a. ♂. Telagubaie, Abyssinia, 17 February, 1899. (No. 332.)

Iris brown; bill dark; legs pale yellowish grey.

271. GLOTTIS NEBULARIUS.

Glottis nebularius (Gunn.); Sharpe, Cat. B. Brit. Mus. xxiv. pp. 481 & 763 (1896).

a. ♀. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 76.)

Iris brown; bill black; legs greenish grey.

272. HELODROMAS OCHROPUS.

Helodromas ochropus (Temm.); Sharpe, Cat. B. Brit. Mus. xxiv. pp. 437 & 759 (1896); Lort Phillips, Ibis, 1898, p. 423.

a. ♀. Baroma, Abyssinia, 10 January, 1899. (No. 151.)

Iris brown; bill dark; legs grey.

273. RHYACOPHILUS GLAREOLA.

Rhyacophilus glareola (Gm.); Sharpe, Cat. B. Brit. Mus. xxiv. pp. 491 & 764 (1896).

a. ♂. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 77.)

b. ♂. Lake Chercher, Abyssinia, 12 January, 1899. (No. 166.)

c. ♂. Roseires, Blue Nile, 19 May, 1899. (No. 514.)

Iris bright hazel; bill dark; legs in *a* greenish brown, in *b* dull greenish yellow, and in *c* sage yellow-green.

274. PAVONCELLA PUGNAX.

Pavoncella pugnax (Linn.); Sharpe, Cat. B. Brit. Mus. xxiv. pp. 500 & 764 (1896).

a. ♂. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 91.)

b. ♂. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 92.)

c. ♀. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 93.)

a. Iris brown; bill dark; legs greenish slate-colour.

b, c. Iris brown; bill dark; legs orange-red.

275. OXYECHUS TRICOLLARIS.

Oxyechus tricollaris (Vieill.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 247 (1896); Lort Phillips, Ibis, 1898, p. 423.

a. ♂. Waha Zinzero, Abyssinia, 4 February, 1899. (No. 289.)

Iris brown; eyelid red; bill dark; legs dull yellow.

276. ÆGIALITIS DUBIA.

Ægialitis dubia Scop.; Sharpe, Cat. B. Brit. Mus. xxiv. p. 263 (1896).

a. ♂. Lake Harrar Meyer, Abyssinia, 30 December, 1898. (No. 54.)

Iris brown; bill black; legs yellow.

277. HIMANTOPUS HIMANTOPUS.

Himantopus himantopus (Linn.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 310 (1896).

a. ♀. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 75.)

Iris brownish orange; bill black; legs bright coral-red.

278. GALLINAGO NIGRIPENNIS.

Gallinago nigripennis Bonap.; Sharpe, Cat. B. Brit. Mus. xxiv. p. 631 (1896).

a. ♂. Borumeda, Abyssinia, 9 February, 1899. (No. 307.)

Iris brown; bill dark; legs dull yellow-green.

[Shoa, taken as a whole, is curiously deficient in this most sporting of birds. Miles of land suitable for the family are to be found in every valley; yet, notwithstanding careful search, the Jack Snipe and the above were the only species met with, and these in very small numbers. Our investigations were carried out for only six months of the year, but Capt. Harrington and other residents assured us that at no time were these birds to be found in any great number.—L.]

279. HYDROCHELIDON LEUCOPTERA.

Hydrochelidon leucoptera Saunders, Cat. B. Brit. Mus. xxv. p. 6 (1896).

a. ♂. Blue Nile, 14 May, 1899. (No. 508.)

Iris dark brown; bill dark brown; legs red.

280. ROUGETIUS ROUGETI.

Rougetius rougeti (Guérin); Sharpe, Cat. B. Brit. Mus. xxiii. p. 162 (1894).

a. ♂. Gedda, Abyssinia, 1 February, 1899. (No. 286.)

Iris light hazel; bill and legs dark brown.

281. PODICIPES CAPENSIS.

Podicipes capensis Licht.; Grant, Cat. B. Brit. Mus. xxvi. p. 513, pls. vii. & viii. (1898).

Tachybaptes capensis Lort Phillips, Ibis, 1898, p. 424.

a. ♀ imm. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 79.)

b. ♂. Lake Harrar Meyer, Abyssinia, 1 January, 1899. (No. 80.)

c. ♀. Lake Chercher, Abyssinia, 12 January, 1899. (No. 177.)

a. Iris brown; bill dull red; legs slate-colour.

b. Iris light hazel; bill and legs black.

c. Iris reddish; bill and legs dark brown.

282. PODICIPES NIGRICOLLIS.

Podicipes nigricollis Brehm; Grant, Cat. B. Brit. Mus. xxvi. p. 538 (1898).

a. ♀. Lake Harrar Meyer, Abyssinia, 2 January, 1899. (No. 82.)

Iris bright red; bill and legs black.

283. VINAGO WAALIA.

Vinago waalia (Gm.); Salvad. Cat. B. Brit. Mus. xxi. p. 15 (1893); Sharpe, P. Z. S. 1895, p. 516; Lort Phillips, Ibis, 1898, p. 424.

a. ♀. Laga Hardim, Abyssinia, 14 January, 1899. (No. 185.)

Iris red, a line of blue round the pupil; bill whitish; legs yellow.

[Feeds on the wild fig, and always to be found where these trees exist.—L.]

284. COLUMBA ALBITORQUES.

Columba albitorques Rüpp.; Salvad. Cat. B. Brit. Mus. xxi. p. 265 (1893); Sharpe, P. Z. S. 1895, p. 516.

a. ♂. Gedda, Abyssinia, 1 February, 1899. (No. 285.)

Iris red; bill black; legs red.

[Lives in colonies in the rocks. When feeding in flocks, these Pigeons often keep very close together on the ground.—L.]

285. Columba guinea.

Columba guinea (Linn.); Salvad, Cat. B. Brit. Mus. xxi. p. 266 (1893); Sharpe, P. Z. S. 1895, p. 517.

a. ♂. Laga Hardim, Abyssinia, 14 January, 1899. (No. 186.)

Iris red, round pupil dark red; bill dark; legs pinkish.

[This widely-distributed Pigeon nests in the rocks.—L.]

286. Columba arquatrix.

Columba arquatrix Temm.; Salvad. Cat. B. Brit. Mus. xxi. p. 276 (1893).

a. ♂. Warabili, Abyssinia, 3 January, 1899. (No. 97.)

Iris orange-red; bill, eyelids, and legs light yellow.

[The only two occasions on which we came across this Pigeon was in thick forest. The food found in the crop consisted of berries, which it obtains by climbing about among the branches. It appeared to move about in the trees with greater ease than is usual among birds of this kind.—L.]

287. Turtur lugens.

Turtur lugens (Rüpp.); Salvad. Cat. B. Brit. Mus. xxi. p. 408 (1893); Sharpe, P. Z. S. 1895, p. 517.

a. ♀. Balti, Abyssinia, 23 January, 1899. (No. 262.)

Iris orange-red; bill black; legs red.

[Very common on the high plateaux.—L.]

288. Turtur semitorquatus.

Turtur semitorquatus (Rüpp.); Salvad. Cat. B. Brit. Mus. xxi. p. 416 (1893).

a. ♀. Mendi, Abyssinia, 18 April, 1899. (No. 481.)

Narrow orange iris surrounding a large pupil; bill black; legs dull red.

[Widely distributed throughout the valleys of Southern Abyssinia.—L.]

289. TURTUR AMBIGUUS.

Turtur ambiguus Bocage; Salvad. Cat. B. Brit. Mus. xxi. p. 419 (1893).

a. ♂. Kassim river, Abyssinia, 20 January, 1899. (No. 240.)

b. ♀. Famaka, Blue Nile, 9 May, 1899. (No. 502.)

a. Iris yellow; bill black; legs red.

b. Iris yellow-brown; bill black; legs red.

[This Dove was very plentiful on the Kassim river and Blue Nile, but was not observed elsewhere.—L.]

290. TURTUR VINACEUS.

Turtur vinaceus (Gm.); Salvad. Cat. B. Brit. Mus. xxi. p. 428 (1893).

a. ♂. Tchlea, Abyssinia, 8 March, 1899. (No. 384.)

Iris brown; bill black; legs red.

[Common throughout Central and Southern Abyssinia.—L.]

291. TURTUR SENEGALENSIS.

Turtur senegalensis (Linn.); Salvad. Cat. B. Brit. Mus. xxi. p. 448 (1893); Sharpe, P. Z. S. 1895, p. 517.

a. ♀. Feyambiro, Abyssinia, 26 December, 1898. (No. 38.)

b. ♂. Feyambiro, Abyssinia, 26 December, 1898. (No. 39.)

c. ♂. Arriro, Abyssinia, 19 February, 1899. (No. 351.)

Iris brown; bill black; legs red.

[To be seen in pairs in every dhurra-field.—L.]

292. ŒNA CAPENSIS.

Œna capensis (Linn.); Salvad. Cat. B. Brit. Mus. xxi. p. 501 (1893); Sharpe, P. Z. S. 1895, p. 518; Lort Phillips, Ibis, 1898, p. 424; Hawker, Ibis, 1899, p. 81.

a. ♂. Acabsiyo, Somaliland, 17 December, 1898. (No. 17.)

b. ♂ juv. Hado, Abyssinia, 24 December, 1898. (No. 29.)

c. ♂. Feyambiro, Abyssinia, 25 December, 1898. (No. 30.)

d. ♀. Famaka, Blue Nile, 6 May, 1899. (No. 498.)

Iris brown; bill in *a* dark red, yellow at tip, in *b* and *c* red, in *d* black; legs red.

[Not found at any great elevation; it was not seen in the valleys of Central Abyssinia.—L.]

293. TYMPANISTRIA TYMPANISTRIA.

Tympanistria tympanistria (Temm.); Salvad. Cat. B. Brit. Mus. xxi. p 504 (1893).

a. ♂. Wama, Abyssinia, 12 March, 1899. (No. 402.)

Iris brown; bill black; legs red.

This is the first time this species has been recorded from Abyssinia. It was previously known to occur as far north as British East Africa.

[This Dove was seen only in the thick jungle; it never perches on the trees, but lives on the ground. It may be seen at dusk flying to water, and was not observed much west of the Didesa river.—L.]

294. CHALCOPELIA AFRA.

Chalcopelia afra (Linn.); Salvad. Cat. B. Brit. Mus. xxi. p. 506 (1893); Sharpe, P. Z. S. 1895, p. 518; Lort Phillips, Ibis, 1898, p. 424.

a. ♂. Laga Hardim, Abyssinia, 14 January, 1899. (No. 188.)

b. ♂. Beni Schongul, Abyssinia, 3 May, 1899. (No. 495.)

a. Iris brown; bill dark; legs red.

b. Iris brown; bill black; legs dark red-brown.

295. PTEROCLES QUADRICINCTUS.

Pterocles quadricinctus Temm.; Grant, Cat. B. Brit. Mus. xxii. p. 32 (1893).

a. ♀. Roseires, Blue Nile, 16 May, 1899. (No. 511.)
b. ♂. ,, ,, ,, (No. 512.)

Iris brown; bill yellow, black at tip; legs yellow.

296. FRANCOLINUS GRANTI.

Francolinus granti Hartl.; Grant, Cat. B. Brit. Mus. xxii. p. 148 (1893); Sharpe, P. Z. S. 1895, p. 520.

a. ♂. Kassim river, Abyssinia, 18 January, 1899. (No. 230.)

Iris brown; bill black; legs dull red.

[Common in the lower valleys.—L.]

297. Francolinus castaneicollis.

Francolinus castaneicollis Salvad.; Grant, Cat. B. Brit. Mus. xxii. p. 153 (1893); Sharpe, P. Z. S. 1895, p. 520.

a. ♀ ad. Lake Chercher, Abyssinia, 11 January, 1899. (No. 160.)

Iris brown; bill reddish brown; legs dull red.

This female agrees well with my description and figure taken from the type specimen also obtained at Lake Chercher, but the measurements are decidedly larger. Wing 7·4 inches, tail 4·1, tarsus 1·9. The measurements of the type, also a female, are:—wing 6·6 inches, tail 3·6, tarsus 1·7. Mr. E. Lort Phillips has procured several immature examples of this Francolin in the Goolis Mountains, in Northern Somaliland.

The species is new to the British Museum Collection.

[Fairly common in Central Abyssinia.—L.]

298. Francolinus sharpii.

Francolinus sharpii Grant, Cat. B. Brit. Mus. xxii. p. 164 (1893).

a. ♀. Arriro, Abyssinia, 18 February, 1899. (No. 338.)

Iris brown; cere red; bill black; legs red.

[This female Francolin was laying eggs, though still with the covey.]

299. Francolinus harwoodi. (Plate VI.)

Francolinus harwoodi Weld-Blundell & Lovat, Bull. B. O. C. vol. x. p. xxii (1899).

a. ♂. Ahaia Fej, Abyssinia, 7 February, 1899. (No. 298.) [*Type of the species.*]

This species is most nearly allied to *F. natalensis* Smith and *F. icterorhynchus* Heugl. From the former it may be distinguished by having the feathers of the occiput and back of the neck black, narrowly margined with white, producing a strongly scaled appearance; the chest, upper breast, and sides of the body greyish brown, ornamented with narrow concentric black and white bands, and the lower breast, belly, and rest of the underparts pale ochraceous, with a few subconcentric black markings. It resembles *F. icterorhynchus* in having the upper parts indistinctly barred with pale greyish brown, the inner webs of the primary-quills mottled with pale rufous, and the ground-colour of the belly pale ochraceous. Iris brown; bill, naked skin round eye, and legs red. Total length about 14·5 inches, culmen 1·15, wing 7·1, tail 3·3, tarsus 2·1.

300. FRANCOLINUS TETRAONINUS. (Plate V.)

Francolinus tetraoninus Weld-Blundell & Lovat, Bull. B. O. C. vol. x. p. xxii (1899).

a. ♀ ad. Mendi, Abyssinia, 18 April, 1899. (No. 483.) [*Type of the species.*]

Though allied to *F. schuetti* Cab. this species appears to be quite distinct. It differs chiefly in having the dark middles to the feathers of the nape, interscapular region, and wing-coverts but faintly indicated, and the chest and breast nearly uniform greyish brown. Iris brown; bill dull orange-red; legs and feet orange-red. Total length 12·5 inches, culmen 1·05, wing 6·5, tail 2·65, tarsus 1·65.

[This new Francolin, which was met with only near Mendi, was found in coveys among the bamboo-jungle. The flight is very strong.—L.]

301. FRANCOLINUS ERCKELI.

Francolinus erckeli Rüpp.; Grant, Cat. B. Brit. Mus. xxii. pp. 172 & 559 (1893).

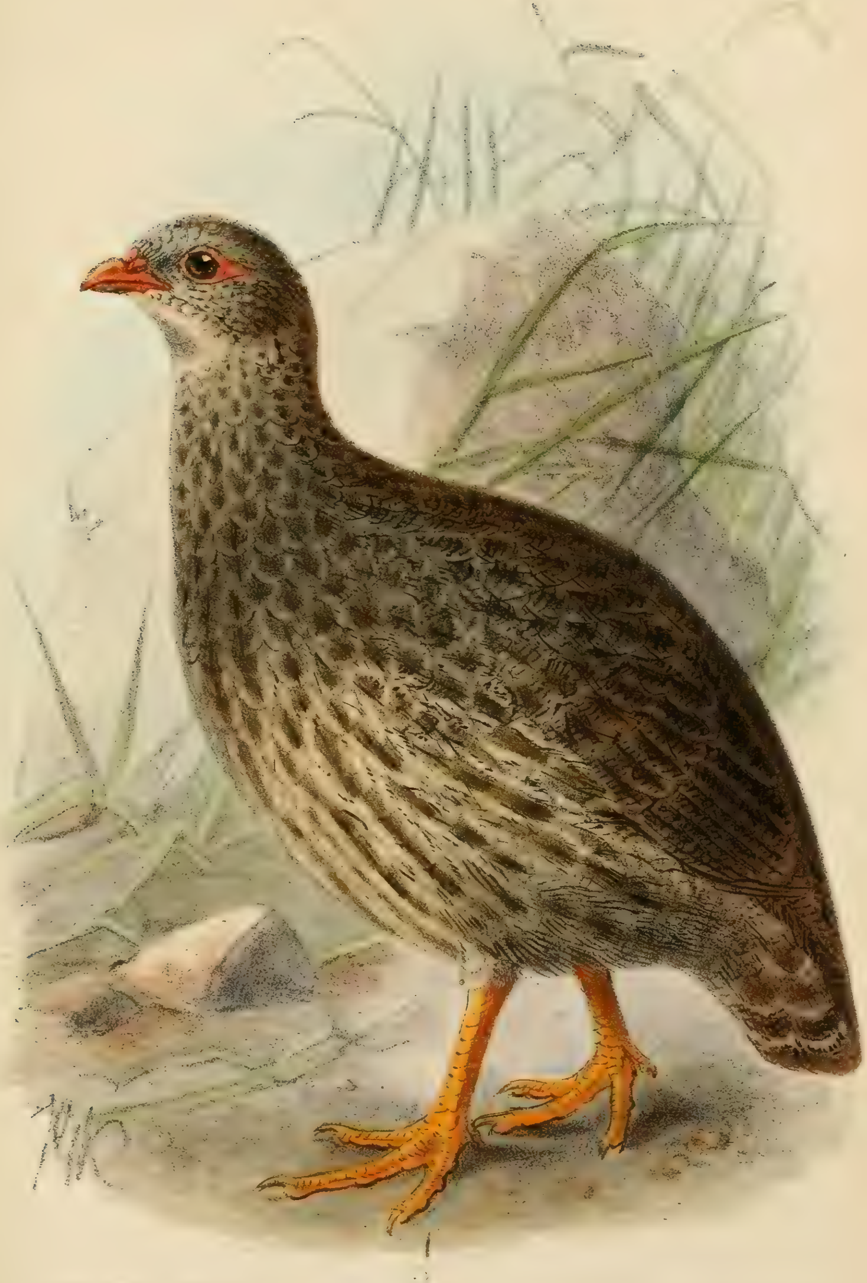
a. ♂. Damai Damash, Abyssinia, 23 February, 1899. (No. 371.)

Iris brown; bill black; legs dull yellow.

[A darker Francolin was seen the day this bird was shot, but not secured.—L.]

302. NUMIDA PTILORHYNCHA.

Numida ptilorhyncha Licht.; Grant, Cat. B. Brit. Mus. xxii. p. 379 (1893).



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FRANCOLINUS TETRAONINUS.

Head only. Kassim river, Abyssinia, 19 January, 1899. (No. 232.)

Iris brown ; bill brown ; top of the head yellow-brown ; sides of the face and throat bright light blue ; legs black. Total length (measured in the flesh) 22·5 inches.

XVII.—*On a Collection of Birds made by Captain A. M. Farquhar, R.N., in the New Hebrides.* By R. Bowdler Sharpe, LL.D., &c.

(Plate VII.)

The collection here described has been presented to the British Museum by Captain A. M. Farquhar of H.M.S. 'Wallaroo,' and as he visited many islands in which very little collecting had previously been done, he obtained some interesting and beautiful new birds.

He writes to me on the 9th of October, 1899:—"I have been in these parts from May till now, and have got together specimens of some forty different species of birds. I lost few opportunities of trying to add to the collection, and I hope my efforts may have been of some use. Oddly enough, the birds in the New Hebrides are very shy, at least the smaller kinds, for the natives seem to be always after them with their bows. I could not get a cock Blackbird, and of the four or five hens, I shot only one myself, the natives having snared the others. They are very wild, and it is difficult in the bush to stalk to within 30 or 40 yards of them. I got several Megapodes' eggs, but failed to obtain a skin, as we were never able to stay long enough in one place, and the natives brought them in after we had left, when there was no one to skin them.

"I did not trouble about the sea- or shore-birds, and did not succeed in obtaining a bird which the natives described as nesting in holes in the mountains—some sort of Shearwater, I presume.

"I saw several places where the Megapodes laid their eggs ; these are concealed at the decayed root of a tree. Coming south from New Caledonia, the first Albatross I saw was about 200 miles south of that place, which seemed to be a long way north; it looked like *Diomedea exulans* in size."

CIRCUS WOLFI Gurney; Wiglesw. Aves Polyn. p. 3 (1891); Sharpe, Hand-l. B. i. p. 246 (1899).

No. 75. ♂ imm. Fila, Efaté [Vaté], July 25, 1899.—Bill plumbeous, darkest at tip; base of culmen yellowish green; cere blue; feet yellow; iris golden yellow.

STRIX LULU Peale; Sharpe, Hand-l. B. i. p. 301 (1899).
Strix flammea lulu Wiglesw. t. c. p. 3 (1891).

No. 96. ♂ ad. Hoy Head, Espiritu Santo, Aug. 7, 1899.—Bill fleshy white, yellowish at base; feet dirty yellow; iris dark.

[I saw two Owls, apparently of this species, at Erromanga. —A. M. F.]

TRICHOGLOSSUS MASSENA Bp.; Wiglesw. t. c. p. 7 (1891).

Nos. 3, 14. Sandwich Bay, Mallicollo.—Bill red-orange; feet powdery black; iris bright golden red with dark centre. Feeding on coco-nut palm.

[Common in all the islands, going generally in pairs, and feeding in the flowering trees.—A. M. F.]

HYPOCHARMOSYNA PALMARUM (Gm.); Salvad. Cat. B. Brit. Mus. xx. p. 78 (1891).

Nos. 92, 93. ♂ ad. Elephant Island, Espiritu Santo, Aug. 6, 1899.—Bill red-orange; feet dull orange; iris bright yellow.

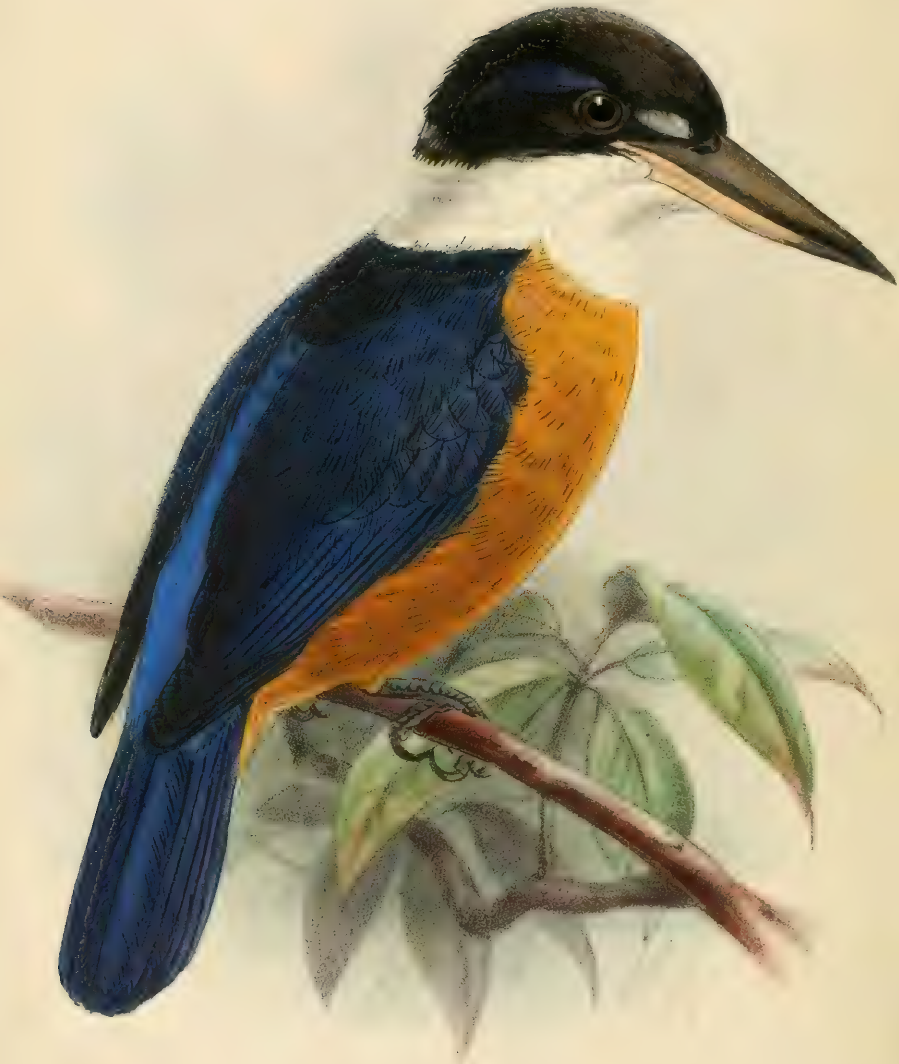
No. 97. ♂ ad. No. 98. ? ♀ ad. Dip Point, Ambryn, Aug. 15, 1899.

Seen several times on Ambryn; also at Hoy Head, on Espiritu Santo, and on Vanua Lava. Not very common anywhere. Feeds in the flowering trees.

Nos. 106, 107. ♂ ♀ ad. Vanua Lava, Banks Island, Sept. 11, 1899.

CACOMANTIS SCHISTACEIGULARIS, sp. nov.

C. similis *C. simo*, sed ubique saturatior, gutture toto sordide schistaceo, et rectricibus externis haud albo transfasciatis distinguenda. Long. tot. 10·1 poll.; culm. 0·9, alæ 5·1; caudæ 5·1; tarsi 0·9.



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HALCYON FARQUHARI

No. 91. ♂ ad. Hoy Head, Espiritu Santo, Aug. 7, 1899.—Bill black; feet dirty yellow; iris red.

Nos. 120, 121. ♂ ♀ ad. Hoy Head, Espiritu Santo, Sept. 18, 1899.—Stomach contained beetles.

The *Cacomantis* from the New Hebrides is distinct from the New Caledonian bird and also from that of the Fiji Islands. Capt. Shelley found only a slight difference in the size of the bill to separate *Cacomantis simus* of Fiji from *C. bronzinus* of New Caledonia. *C. bronzinus* and *C. schistaceigularis* have very similarly coloured tails, the outer rectrices having narrow white bars on the inner web; but in the former bird the rufous of the under surface is continued right up to the chin, whereas in the New-Hebridean examples the entire throat is dark slaty grey. In *C. simus*, from the Fiji Islands, the throat is pale grey to a certain extent, but the tail-markings are very different, for the white tips and tail-bands are very broad and often extend right across the feathers.

Halcyon farquhari Sharpe, Bull. Brit. Orn. Club, x. p. xxix (Dec. 1899). (Plate VII.)

No. 9. ♀ ad. Hoy Head, Espiritu Santo, Aug. 7, 1899.—Culmen black; genys whity flesh, tip black; legs bluish black; iris dark.

No. 29. ♂ ad. Tangkunen, Mallicollo.—Iris dark brown, with black centre; legs black.

No. 112. ♀ ad. Hoy Head, Espiritu Santo, Sept. 16, 1899.

This is a remarkable new species of *Halcyon* of the *Cyanalcyon* section, and apparently quite distinct from any of those described. From *H. leucopygius*, which seems to be its most direct ally, it is at once recognizable by its blue lower back and cinnamon-orange breast and abdomen. It cannot be confounded with *H. winchelli* or *H. quadricolor* or any other species of the red-breasted group, as the cinnamon-orange colour of the underparts is quite peculiar.

Halcyon juliæ (Heine); Sharpe, Cat. B. Brit. Mus. xvii. p. 264(1892); Wiglesw. t. c. p. 14.

No. 21. ? ♀ juv. Sandwich Bay, Mallicollo.—Upper mandible black; lower mandible white, black at tip; iris dark.

No. 53. ♀ ad. Errakate R., Espiritu Santo, June 18, 1899.—Feet dirty flesh-colour; iris dark.

No. 20. ♂ imm. Sandwich Bay, Mallicollo, May 15, 1899.—Bill, upper mandible black, lower mandible white, black at tip; feet horn-colour, toes darker; iris dark.

No. 73. ♂ ad. Dillon's Bay, Erromanga, July 24, 1899.

COLLOCALIA UROPYGIALIS Gray; Hartert, Cat. B. Brit. Mus. xvi. p. 507 (1892); Wiglesw. t. c. p. 17.

No. 28. ♂ ad. Sandwich Bay, Mallicollo, May 17, 1899.—Bill black; feet horn-colour; iris black. Common.

No. 60. ♂ ad. Tangoa, S. of Espiritu Santo, June 21, 1899.—Feet brownish black, claws black.

COLLOCALIA FUCIPHAGA (Thunb.); Hartert, Cat. B. Brit. Mus. xiv. p. 498 (1892); Wiglesw. t. c. p. 17.

No. 57. ♂ ad. Errakate, S. of Espiritu Santo, June 18, 1899.—Bill and feet black; iris dark. Common.

No 77. ♀ ad. Havannah Harbour, Efaté [Vaté], July 27, 1899.

HIRUNDO TAHITICA Gm.; Sharpe, Cat. B. Brit. Mus. x. p. 141 (1885); Wiglesw. t. c. p. 18.

No. 54. Ad. Errakate R., Espiritu Santo, June 18, 1899.

RHIPIDURA SANCTA.

Rhipidura sancta Sharpe, Bull. B. O. C. x. p. xxix (Dec. 1899).

Nos. 113, 114. ♂ ♀. Hoy Head, Espiritu Santo, Sept. 17, 1899.—Bill black, light horn-colour at base; feet brown; iris dark. Generally in pairs.

Compared with eight specimens of *R. verreauxi*, the two birds from Espiritu Santo are distinguished by the dingy-white colour on the outer tail-feathers and by the greyish-white throat and chest, the latter being not nearly so thickly mottled with blackish centres to the feathers.

RHIPIDURA ERROMANGÆ, sp. nov.

R. similis *R. brenchleyi*, sed macula gulari nigricante et gastræo læte ochraceo-flavo distinguenda. Long. tot. 5·9 poll.; culm. 0·55; alæ 2·7; caudæ 3·0; tarsi 0·7.

Nos. 36, 44. ♂ ad. Polenia Bay, Erromanga, May 25, 1899.—Feet dark brown; iris dark.

This race of white-shafted Fantail Flycatchers appears to be intermediate between *R. brenchleyi* and *R. saturata.* It has a bright ochraceous under surface like the latter, and the mark on the throat is black, but the inner edge of the tail-feathers has a much broader margin of white, so that the Erromangan bird appears to be a distinct form like *R. brenchleyi.*

MYIAGRA MELANURA Gray; Sharpe, Cat. B. Brit. Mus. iv. p. 379 (1879).

M. caledonica melanura Wiglesw. t. c. p. 23.

No. 10. ♂ ad. Sandwich Bay, Mallicollo, May 13, 1899.—Feet dark plumbeous; iris dark with golden centre. Common.

No. 25. ♂ ad. Port Sandwich, Mallicollo, May 17, 1899.—Bill plumbeous, dark at tip.

No. 30. ♂ ad. Island of Rano, Mallicollo, May 17, 1899.

MYIAGRA TANNAENSIS Tristr. Ibis, 1879, p. 192.

M. perspicillata tannaensis Wiglesw. t. c. p. 23.

No. 32. Ad. Foreland Bay, Epi. Bill lead-colour, darker at tip; feet lead-colour; iris dark.

Nos. 43, 46. ♀ Ad. Polenia Bay, Erromanga, May 26, 1899.

PETRŒCA AMBRYNENSIS, sp. nov.

P. similis *P. pusillæ,* gutture nigerrimo, sed secundariis intimis nigris, minime albido limbatis distinguenda. Long. tot. 4·3 poll.; culm. 0·55; alæ 2·4; caudæ 2·7; tarsi 0·75.

No. 99. ♂ ad. No. 100. ♂ juv. Dip Point, Ambryn Isl., Aug. 15, 1899.—Bill and feet black; iris dark.

The adult male has the black of the upper parts and of the throat intense like *P. pusilla* of Samoa and the Fiji Islands, and does not resemble *P. similis* from Aneiteum and Tanna, as one would have expected. In fact the Ambryn bird appears to be intermediate between the two forms.

PETRŒCA SIMILIS Gray; Sharpe, Cat. B. Brit. Mus. iv. p. 169; Wiglesw. t. c. p. 24.

No. 40. ♂ juv. Polenia Bay, Erromanga, May 26, 1899.—Bill and feet dark brown.

ARTAMIDES CALEDONICUS (Gm.); Sharpe, Cat. B. Brit. Mus. iv. p. 10 (1879); Wiglesw. t. c. p. 24.

No. 6. ♀ ad. Sandwich Bay, Mallicollo, May 13, 1899.—Bill and feet black; iris light yellow, with black centre.

Common. Very inquisitive, and sure to appear at once on hearing the alarm-note of any other bird.

DIAPHOROPTERUS NÆVIUS (Forst.); Oberh. Proc. Philad. Acad. 1899, p. 214.

Symmorphus nævius (Gm.); Sharpe, Cat. B. Brit. Mus. iv. p. 110 (1879); Wiglesw. t. c. p. 26.

No. 12. Juv. Sandwich Bay, Mallicollo, May 13, 1899.—Bill dark horn-colour, lighter at base of under mandible; feet dark plumbeous; iris dark.

Nos. 70, 71. ♂ ad. 72. ♀. Dillon's Bay, Erromanga, July 24, 1899.—Bill and legs black.

No. 78. Ad. Efaté [Vaté].

LALAGE FLAVOTINCTA, Sharpe, Bull. B. O. C. x. p. xxviii (Dec. 1899).

No. 17. ♀ ad. Sandwich Bay, Mallicollo.—Bill dark slate-colour; feet plumbeous; iris dark.

No. 61. ♀ ad. Tangoa, Espiritu Santo, June 21, 1899.

No. 62. ♂ ad. S. of Espiritu Santo, June 22, 1899.

No. 85. ♂ ad. Hoy Head, Espiritu Santo, Aug. 4, 1899.—Bill black; feet dark plumbeous.

The four specimens from the above-mentioned islands all agree together, and differ from the type specimens of *Lalage banksiana*, in having the under surface of the body and the light pattern of the wings and tail of a beautiful yellow instead of white. My first idea was that the colour of the Vanua Lava types had faded, but the figure drawn from the fresh specimens by Smit in the "Cruise of the 'Curaçoa'" depicts *L. banksiana* as white below with a slight tinge of fawn-colour, which is the tint of the specimens at the present day. I cannot see that the Efaté [Vaté] examples in the Museum are different from the Vanua Lava birds, which is a somewhat curious fact in geographical distribution, but with the series at my disposal I can come to no other conclusion than that *L. flavotincta* is distinct.

Pachycephala intacta, sp. nov.

♂ similis *P. chloruræ* ♂, sed clarius flavicanti-viridis.

♀ similis *P. chloruræ* ♀, sed supra viridiscentior, pileo et faciei lateribus brunneis, et subcaudalibus flavis distinguenda. Long. tot. 6·8 poll.; culm. 0·75; alæ 3·25; caudæ 2·5; tarsi 0·95.

Nos. 13, 16. ♂ ad. Sandwich Bay, Mallicollo, May 13, 1899.—Bill black; feet dark plumbeous; iris dark.

No. 63. ♂ imm. Tangoa, Espiritu Santo, June 22, 1899.—Bill dark horn-colour; feet plumbeous brown.

Nos. 79, 80. ♀ ad. 82. ♂ ad. Sandwich Bay, Mallicolla, July 31, 1899.

The type of *Pachycephala chlorura* is from Erromanga, and the type of *Eopsaltria cucullata* is from Aneiteum. Mr. Wiglesworth has pointed out (Bull. Brit. Orn. Club, viii. p. xliv) that the latter species is the female of *P. chlorura*, a self-evident fact which it seems extraordinary that Dr. Gadow could have missed, as the hen of *P. chlorura* from Aneiteum is absolutely identical with *E. cucullata, also from Aneiteum* (!), and evidently of the same species.

I find that the males from Aneiteum, Tanna, and Erromanga are darker and greener than those from Mallicollo, Efaté, and Espiritu Santo, which are decidedly more yellow in colour. The females, however, show more decided differences than the males, for they have a greenish back contrasting with the brown head and face, and the chest and sides of the breast are more ashy brown; the under tail-coverts are bright yellow. Captain Farquhar says that *P. intacta* is a common species on Mallicollo.

Artamus melanoleucus (Forst.); Sharpe, Cat. B. Brit. Mus. xiii. p. 8 (1890); Wiglesw. t. c. p. 26.

No. 1. Ad. Fila, Efaté [Vaté], May 10, 1899.—Bill grey-blue; legs black; iris dark. Infested by a parasitical fly like a grouse-fly. Hawks round the higher boughs of large trees. Has a habit of sitting in a row together on dead branches. Common in some parts of the New Hebrides.

No. 64. ♀ ad. South side of Espiritu Santo, June 22, 1899.—Bill plumbeous.

CLYTORHYNCHUS GRISESCENS.

Clytorhynchus grisescens Sharpe, Bull. B. O. C. x. p. xxix (1899).

No. 59. ♀. S. of Espiritu Santo, June 21, 1899.

No. 111. Hoy Head, Espiritu Santo, Sept. 16, 1899.—Bill dark brown, lighter at the base; gape yellow; feet plumbeous; iris dark.

No. 81. Mallicollo, July 31, 1899.—Feet plumbeous; bill black; gape yellow; iris dark.

As already pointed out in the 'Bulletin,' the birds from Mallicollo and Espiritu Santo appear to differ from the true *C. pachycephaloides* in their grey lores, sides of the face, throat, and fore-neck. The example from Efaté [Vaté] appears to be also slightly different.

CLYTORHYNCHUS VATENSIS.

Clytorhynchus vatensis Sharpe, Bull. B. O. C. x. p. xxix (1899).

No. 48. ♀. Fila, Efaté, June 15, 1899.—Bill plumbeous, very light at the end; upper mandible with a black stripe along the centre; feet plumbeous, with the claws very pale; iris dark.

MYZOMELA CARDINALIS (Gm.); Wiglesw. t. c. p. 32.

♂ ad. Sandwich Bay, Mallicollo, May 13, 1899.—Feeding on flowering trees.

No. 18. ♂ juv. Sandwich Bay, Mallicollo, May 14, 1899.

No. 31. ♂ ad. Port Sandwich, Mallicollo, May 17, 1899.

No. 47. ♀ imm. Fila, Efaté [Vaté], June 15, 1899.

No. 105. ♂ ad. Big Bay, Espiritu Santo, Sept. 7, 1899.

GLYCIPHILA NOTABILIS, Sharpe, Bull. B. O. C. x. p. xxix (1899).

Nos. 108, 109. ♂ ad. Vanua Lava, Sept. 11, 12, 1899.—Apparently replaces *G. flavotincta* in Vanua Lava.

No. 110. ♀ ad. Vanua Lava, Sept. 12.—Bill and legs black; iris dark.

This is an exceedingly well-marked species, and I can find nothing very closely resembling it. Its nearest ally seems to be *G. fasciata* of New Caledonia, but from this species it differs in its brown back, contrasting with the black forehead and vertex, these being bordered on each side by an eyebrow of white-tipped plumes; the ear-coverts and cheeks are also blackish, speckled with greyish white; the under surface of the body is uniform greyish white, without any dusky cross-bars, though the flanks have broad dusky brown streaks, and the under tail-coverts are centred with dusky and tinged with yellow; the under wing-coverts and quill-linings are ferruginous.

GLYCIPHILA FLAVOTINCTA Gray; Wiglesw. t. c. p. 33.

No. 35. ♀ ad. (ovaries much developed). Polenia Bay, Erromanga, May 25, 1899.—Bill black; feet dull lead; iris bright orange, ring very large; pupil black.

Nos. 42, 45. ♀ ad. Polenia Bay, May 26, 1899.

Nos. 50, 51. ♂ ♀ ad. Fila, Efaté [Vaté], June 15, 1899.

ZOSTEROPS MACGILLIVRAYI, sp. nov.

Z. similis *Z. rendovæ*, sed rostro valde breviore, pedibus nigricantibus, minime albicantibus, et fascia brevi supralorali flava distinguenda; annulo ophthalmico albo. Long. tot. 4·8; culm. 0·55; alæ 2·4; caudæ 1·7; tarsi 0·85.

No. 11. ♀ ad. Sandwich Bay, Mallicollo.—Bill dark brown, lighter at base; feet dull yellowish brown; iris dark.

No. 26. ♂ ad. Sandwich Bay, Mallicollo, May 17, 1899.

No. 33. ♂ ad. Foreland Bay, Epi, May 23, 1899.

Dr. Forbes having kindly lent me the type of *Zosterops rendovæ* Tristr., I find, on comparison, that the New Hebrides birds are certainly distinct, having the culmen 0·55–0·6 inch instead of 0·65 as in *Z. rendovæ* (cf. Sharpe, Cat. B. ix. p. 188). They are rather greener in tint, and they all lack the yellow on the forehead, in this respect agreeing with birds from Aneiteum. They are not of such a bright yellow below as *Z. flavifrons*, and the greenish colour of the flanks is therefore not in such evident contrast. There is scarcely any trace of a loral dusky spot, but a small supraloral streak of yellow is present, and a white eye-ring also forms another character for the separation of the species from *Z. rendovæ*.

ZOSTEROPS FLAVIFRONS (Lath.); Sharpe, Cat. B. Brit. Mus. ix. p. 187 (1884); Wiglesw. t. c. p. 36.

No. 2. ♂ ad. Fila, Efaté, May 10, 1899.—Bill brown; feet bluish.

This specimen agrees with others in the Museum from Erromanga and from the typical locality of Tanna. The other White-eyes obtained by Captain Farquhar appear to me to belong to different species.

ZOSTEROPS GRISEONOTA, Gray.

Z. westernensis (Q. & G.), pt., Sharpe, Cat. B. Brit. Mus. ix. p. 155 (1884); Wiglesw. t. c. p. 27.

Z. vatensis Tristr.; Sharpe, t. c. p. 158; Wiglesw. t. c. p. 27.

No. 56. ♀ ad. Errakate R., S. of Espiritu Santo, June 18, 1899.—Bill and feet pale horn-colour; iris dark.

No. 84. ♀ ad. Hoy Head, Espiritu Santo, Aug. 4, 1899.—Bill horn-colour; feet light plumbeous; iris brown.

Since I wrote the account of the genus *Zosterops* in the 'Catalogue of Birds,' the Museum has acquired several specimens of *Z. vatensis* through the Seebohm bequest, and I now believe that the white under tail-coverts are caused by the fact that the specimens have been preserved in alcohol, which has destroyed the yellow tint. The extent of the yellow on the throat is also a character which is not confirmed by a series, and therefore *Z. vatensis* must be united to *Z. griseonota*, as I cannot separate New Hebridean birds from the typical New Caledonian form.

MERULA MAREENSIS (Layard); Seebohm, Cat. B. Brit. Mus. v. p. 249 (1881).

Merula vanicorensis (Q. & G.); Wiglesw. t. c. p. 38.

No. 83. ♀ imm. Sandwich Bay, Mallicollo, Aug. 1, 1899.—Bill and gape yellow; legs bright yellow; iris dark brown; eyelash yellow. Alarm-note like a Blackbird's 'siss, siss.' The only one seen on Mallicollo.

Nos. 87–89, 116, 117. ♀. Hoy Head, Espiritu Santo, Aug. and Sept. 1899.

Captain Farquhar, in his notes, refers to the fact that the Mallicollo bird is not so dark as that from Espiritu Santo and is a little smaller. He writes:—"Very wild, but not uncommon near Hoy Head, Espiritu Santo. I obtained three clutches of eggs, two incubated, two fresh, one just laid; also a nest with two young birds. The nest was of fine roots, lined with dead blades of grass and dead leaves. Dimensions $5 \times 3\frac{1}{2} \times 2$ in. The eggs like those of *Turdus iliacus*: $2{\cdot}5 \times 1{\cdot}6$. This Thrush breeds in August and September."

It is unfortunate that Captain Farquhar obtained only hen birds (*vide anteà*, p. 337), and all Mr. Layard's specimens from Maré seem to have been preserved in spirits, so that an exact comparison between the specimens from the two localities has been difficult. I have, however, been unable to find any tangible point of difference between them, and I think that it is extremely probable that *M. mareensis* is the *M. vanicorensis* of Quoy and Gaimard, as Mr. Wiglesworth has suggested, especially as the white-streaked under tail-coverts are mentioned in the description, though omitted in the plate, of *M. vanicorensis*. A comparison of New Hebrides birds with specimens from Vanikoro will be necessary.

ERYTHRURA CYANEIFRONS Layard; Wiglesw. t. c. p. 42; Sharpe, Cat. B. Brit. Mus. xiii. p. 386 (1890).

No. 66. ♂ ad. Fila, Efaté, July 1, 1899.—Bill black; legs yellowish flesh-colour; iris dark. Feeding in flocks on grass-seeds.

Nos. 67, 69. ♀ ad. 68. ♂ ad. Fila, Efaté, July 1, 1899.

No. 101. ♂ ad. Dip Point, Ambryn, August 15, 1899.

APLONIS RUFIPENNIS Layard; Sharpe, Cat. B. Brit. Mus. xiii. p. 137 (1890).

No. 55. ♀ ad. Errakate R., Espiritu Santo, June 18, 1899.—Bill and legs black; iris dark brown.

No. 65. ♀ ad. Ambryn, June 26, 1899.

Dr. Forbes has kindly sent me the type of Mr. Layard's *A. rufipennis*, which, unlike the majority of the Layardian types, is not in the British Museum, but in the Tristram Collection in the Liverpool Museum. It is a specimen sent from Vaté in alcohol, and the birds from Ambryn and Espiritu Santo are evidently identical. It seems to me to be this same bird which is figured in the "Voyage of the 'Astrolabe'" as *Lamprotornis zelandica* (pl. 9. fig. 1).

In 'The Ibis' for 1894 (p. 31) Canon Tristram has recorded *A. rufipennis* from Santa Cruz Island; but I find that the two specimens from that island in the Tristram Collection, lent me by Dr. Forbes, really belong to a different species. Having drawn the attention of Dr. Forbes to this fact, I am glad to say that he agrees with me as to their distinctness, and has described the Santa Cruz species as *A. maxwelli* (Bull. Liverp. Mus. ii. p. 116.).

PTILOPUS GREYI Bp.; Wiglesw. t. c. p. 263; Salvad. Cat. B. Brit. Mus. xxi. p. 85 (1893); Sharpe, Hand-l. B. i. p. 56 (1899).

No. 5. Juv. Sandwich Bay, Mallicollo, May 12, 1899.—Bill green; feet pink; iris golden.

No. 15. ♂ ad. Sandwich Bay, May 17, 1899.—Bill apple-green; feet dusky pink; iris dark with golden ring.

No. 27. ♂ ad. Mallicollo, May 19, 1899.—Feet dirty purple-red.

No. 52. ♀ imm. Fila, Efaté [Vaté], June 15, 1899.—Bill green; feet dirty brownish pink; iris golden.

No. 104. ♂ juv. Terebin, Big Bay, Espiritu Santo, Sept. 7, 1899.

No. 118. ? ♀ ad. Hoy Head, Espiritu Santo, Sept. 18, 1899. No. 118. ? ad.—Bill dark apple-green. Stomach full of small seeds.

SYLPHITRERON TANNENSIS (Lath.); Sharpe, Hand-l. B. i. p. 59 (1899).

Ptilopus tannensis Wiglesw. t. c. p. 247; Salvad. Cat. B. Brit. Mus. xxi. p. 127 (1893).

No. 37. ♀ imm. Polenia Bay, Erromanga, May 25, 1899.—Bill dull lead; legs dirty purplish; iris dark.

No. 38. ♂ ad. Polenia Bay, Erromanga, May 25, 1899.—Bill slate-blue; iris mauve, large dark pupil.

No. 76. ♂ ad. Tangoa, S. of Espiritu Santo, June 21, 1899.

It should be noticed that both these specimens are lighter and more *oily*-green, and not so *grass*-green as the other birds in the British Museum, where the Vaté specimen alone corresponds with them. The adults from Erromanga and Espiritu Santo show curious blackish bands across the lower surface of the primaries, whereas the quill-lining in the Museum series is uniform pearly grey. There are traces of these obscure bars in the Vaté bird.

GLOBICERA FARQUHARI sp. nov.

Similis *G. pacificæ*, sed ubique saturatior; subalaribus et remigibus intus saturate plumbeis; linea lorali mentoque albis; pileo, collo undique et præpectore saturatè schistaceis, pectore sordide vinaceo. Long. tot. 15·5 poll., culm. 0·95, alæ 9·1, caudæ 5·5, tarsi 1·3.

No. 39. ♀. Polenia Bay, Erromanga, May 28, 1899.

This species seems to be quite distinct from *G. pacifica*, being a very much darker bird, with a slaty-grey head, neck, and chest. It belongs to the section with dark leaden-grey under-wing-coverts.

GLOBICERA PACIFICA (Gm.); Salvad. Cat. B. Brit. Mus. xxi. p. 173 (1893); Sharpe, Hand-l. B. i. p. 63 (1899).

Carpophaga pacifica Wiglesw. t. c. p. 51.

No. 4. ♀ ad. Sandwich Bay, Mallicollo, May 15, 1898.—Feet crimson-pink; iris with a dark centre and an orange circle. Breeding on high fruit-trees; crop full of palm-seeds.

No. 103. ♀. Sandwich Bay, Mallicollo, Sept. 4, 1899.

It seems to me that at least two species are included in the series of specimens determined as *G. pacifica* by Count Salvadori. The Samoan and Friendly Islands bird has dark plumbeous under-wing-coverts and quill-linings, and has the vinous colour of the under surface extending up to the base of the bill, without any chestnut contrasting on the abdomen.

The bird from the Louisiades and the New Hebrides appears to me to be distinct, having a much lighter pearly-grey head and mantle, white chin and frontal line, and a distinct shade of vinous-chestnut overspreading the abdomen, and contrasting with the clearer vinous of the chest. I have, however, followed Count Salvadori in adopting the name of *G. pacifica* for the New Hebrides examples, but I would call attention to the pearly-grey head and mantle, and to the much lighter grey under-wing-coverts and quill-linings. The name of *G. tarralii* Bp. is perhaps available for this bird, as the type of that species came from Vanikoro, and is in all likelihood identical with the Louisiade form.

Columba leopoldi (Tristr.); Wiglesw. t. c. p. 53; Sharpe, Hand-l. B. i. p. 72.

No. 74. ♀. Dillon's Bay, Erromanga, July 24, 1899.—Bill and legs dull coral-red; iris golden.

No. 95. ♀. Hoy Head, Espiritu Santo, Aug. 7, 1899.

No. 119. ♂. Hoy Head, Espiritu Santo, Sept. 18, 1899.

Macropygia rufa Ramsay; Wiglesw. t. c. p. 54; Sharpe, Hand-l. B. i. p. 75.

No. 24. ♂ ad. Port Sandwich, Mallicollo, May 17, 1899.—Bill dark horn; feet pink; iris dark, with golden circle.

No. 58. ♀ juv. S. of Espiritu Santo, June 21, 1899.—Bill and feet reddish brown.

Chalcophaps chrysochlora Gould; Wiglesw. t. c. p. 57; Sharpe, Hand-l. B. i. p. 83 (1899).

No. 23. ♂ ad. Mallicollo, May 17, 1899.—Bill orange-red, tip horn; legs dirty purple; iris dark. Common. Natives snare these birds freely. Breeds in September. Feeds on ground. Stomach full of small seeds.

No. 41. ♂ ad. Polenia Bay, Erromanga, May 26, 1899.

No. 86. ♀ ad. Hoy Head, Espiritu Santo, Aug. 5, 1899.—Feet purplish pink; iris golden. Feeds on the ground, on seeds.

Porphyrio smaragdinus Temm.; Sharpe, Cat. B. Brit. Mus. xxiii. p. 203 (1894).

No. 31. ♀ ad. Pangkumu, Mallicollo, May 20, 1899.—Bill and shield blood-red on a dirty whitish horn-coloured ground; feet yellowish horn with grey joints.

Charadrius dominicus P. L. S. Müll.; Sharpe, Hand-l. B. i. p. 152 (1899).

Charadrius fulvus Gm.; Wiglesw. t. c. p. 63.

No. 115. ♀ juv. Hoy Head, Espiritu Santo, Sept. 17, 1899.—Bill and feet fuscous; iris brown.

Butorides stagnatilis (Gould); Sharpe, Cat. B. Brit. Mus. xxvi. p. 183 (1898).

Butorides javanica (Horsf.); Wiglesw. t. c. p. 68.

No. 8. Ad. No. 9. ♀ juv. Sandwich Bay, Mallicollo, May 12, 1899.—Feet yellowish brown.

Demiegretta sacra (Gm.); Wiglesw. t. c. p. 67 (1891); Sharpe, Hand-l. B. i. p. 198 (1899).

No. 21. Imm. (dark phase). Sandwich Bay, Mallicollo, May 15, 1899.

No. 22. ♂ ad. (dark phase). Sandwich Bay, Mallicollo, May 15, 1899.—Some dark plates in front of tarsi.

An adult and a young bird, the latter with a small white plume or two on the edge of the wing and on the thighs.

XVIII.—*On some Birds from the Island of Negros, Philippines.*

By W. Eagle Clarke, F.L.S.—Part IV.*

(Plate VIII.)

Notwithstanding the extremely unsettled state of affairs in the Philippine Archipelago, my friend Mr. W. A. Keay returned to his sugar-plantation on the east coast of the island of Negros in February 1899, and remained there for several months, as he has done for the past twenty years. During this sojourn, in spite of many distracting influences, Mr. Keay obtained a considerable number of birds, and upon them, through the kindness of Mr. John Maclauchlan, the Director of the Albert Institute and Public Museum, Dundee, I have been permitted to report, after examination.

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* For previous papers on this subject see Ibis, 1894, pp. 531–535; 1895, pp. 472–479; and 1898, pp. 119–124.

The collection contains three undescribed birds, namely, a fine new Pigeon of the genus *Phlogœnas*, a *Batrachostomus* which may possibly be new, and a *Caprimulgus*, which has proved to be the hitherto unknown female of a somewhat rare Philippine species, *C. griseatus*. In addition, two of the species represented are new to the Philippine fauna, and several are new to the ornis of Negros.

The discovery of a new *Phlogœnas* is an event of some interest, the more so since the distribution of the members of the genus over the archipelago is peculiar, and presents one of those singularly engaging problems in which the Philippine ornis is so marvellously rich. There are now known five species of this genus confined to the Philippines, the majority of which are peculiar to single islands.

Concerning certain species, including a few of those which have been mentioned in former contributions, Mr. Keay has furnished me with some short but useful field-notes, and with the native names current in Negros. Regarding these latter, it should be stated that they are in some cases imitative of the call-notes of the various birds.

The species contained in this collection which have not been previously met with by Mr. Keay are numbered in continuation of the former series, and where references are quoted under them, these furnish the first records for the occurrence of the species in Negros.

74. PYCNONOTUS GOIAVIER (Scopoli).

Ixus goiavier Tweeddale, P. Z. S. 1878, p. 285. Negros (*Everett*).

Two specimens of the Yellow-vented Bulbul, a species somewhat widely distributed over the archipelago, are new to Mr. Keay's collection.

ARTAMIDES PANAYENSIS Steere; Eagle Clarke, Ibis, 1898, p. 120.

Mr. Keay sends a male and two females of this Cuckoo-Shrike. He tells me that this bird is found only in the mountains, where it is fairly common and nests in lofty trees. The native name is "Uliac." Even this slight information may be useful, inasmuch as little appears to be known regarding the habits of this species.

75. SIPHIA PHILIPPINENSIS (Sharpe).

Cyornis philippinensis Sharpe; Tweeddale, P. Z. S. 1878, p. 284. Negros (*Everett*).

A female specimen of the Philippine Red-breasted Flycatcher.

76. PITTA ERYTHROGASTRA Temminck; Grant, Ibis, 1896, p. 555. Negros (*Whitehead*).

An example of this Red-breasted Pitta was captured in Mr. Keay's sugar-factory on the 20th of April, 1899. Mr. Keay says that this species is not common in his district of Negros, and that the native name, and its note, is "Puc-puc." Though this bird appears to have a wide range over the islands, it has only been recently discovered in Negros.

77. CAPRIMULGUS GRISEATUS G. R. Gray; Hart. Cat. B. Brit. Mus. xvi. p. 550.

A Nightjar shot by Mr. Keay proves to be the undescribed female of this species.

Upper plumage a delicate mixture of grey, black, and fulvous, darker on the head, mantle, back, and inner scapulars, and lighter on the outer scapulars, tertials, wing-coverts, upper tail-coverts, and central tail-feathers; hind-neck and sides of the neck irregularly spotted with buff and fulvous; outer webs of central scapulars mottled with buff, fulvous, and black; inner primaries, outer secondaries, and primary-coverts boldly barred black and bright fulvous; outer primaries black, the outer webs hoary towards the tips; outer web of first primary narrowly margined with fulvous on its middle third, and with a large central spot of white, margined with buff, on its inner web; second, third, and fourth primaries with buff and white bars on both webs, forming a broad band across their centres; outermost tail-feather barred with black and fulvous on the upper two-thirds of its outer web and mottled with grey and dusky on its lower third, inner web mottled with grey and dusky, becoming fulvous on the margin, and buff and less mottled near the tip; next rectrix similar, but darker; chin, throat, and breast a fine mixture of fulvous and black, with white spots on the throat and buff and fulvous spots on the breast; abdomen and thighs pale fulvous, somewhat finely barred with dusky black; under tail-coverts similar, but with the bars fewer or absent. Wing 6·6 inches, tail 4·1, tarsus 0·8.

It is not an easy specimen to describe, but, speaking generally, the upper parts are grey (dusky on the back and head, ashy and more variegated on the coverts, tertials, and tail), while the brightly coloured bars of black and fulvous on the greater wing-coverts, secondaries, and primaries form a striking feature in its plumage—a feature, however, to which no prominence is given in the descriptions of the male accessible to me. It chiefly differs from the male in the entire absence of white on the two outer pairs of tail-feathers, and in having the broad band across the centre of the outer primaries white and buff in almost equal proportions, as against pure white in the male.

I was much puzzled with this undescribed specimen, and being unable to arrive at a satisfactory decision as to its determination, I sought the aid of Mr. Hartert, a recognized authority on the Caprimulgidæ, who kindly examined the bird and solved the question as to its identity.

Although Gray's Philippine Nightjar is an uncommon bird, yet it is somewhat strange that males only should have been obtained during the forty years that have elapsed since the species was described. The late Mr. Whitehead found its eggs in Luzon, and tells us (Ibis, 1898, p. 246) that both birds were present at the time, and were identified beyond a doubt. This Nightjar is new to the avifauna of Negros, having hitherto been recorded only for the islands of Luzon and Catanduanes.

78. Batrachostomus sp. inc.

Head and hind-neck a fine mixture of black and fulvous, the feathers terminally barred with broader bands of these tints, producing a spotted appearance; an indistinct buff band from the forehead over the eye; elongated auriculars fulvous, banded and tipped with black; nuchal collar banded with buff, fulvous, and black; mantle and lower back reddish brown, closely vermiculated with black and darker than the head; upper tail-coverts similar, but more coarsely vermiculated; scapulars plain cinnamon on the outer webs, vermiculated with black on the inner webs, each feather with a subapical spot of black; wing-coverts like the back, some of the feathers with conspicuous apical spots of white; primary-coverts chiefly black; primaries cinnamon, barred with dusky on the outer webs, dusky on the inner webs; secondaries cinnamon, irregularly barred and mottled with black on the outer webs, dusky in the centre and on the inner webs; tertials cinnamon, vermiculated with black; tail cinnamon-rufous, with transverse bands of a darker tint, which are narrowly margined with black; chin, throat, and breast tawny, finely banded with black, the concealed portion of the feathers of the upper breast being white subterminally and mesially banded with black; feathers of the lower breast and abdomen chiefly whitish, margined with tawny slightly vermiculated with dusky; thighs and under tail-coverts buff. Wing 5·5 inches, tail 4·2, tarsus 0·7, culmen 1·0.

The complex coloration of this bird renders it somewhat difficult to describe. Perhaps the most striking features presented are the conspicuous lateral bands of cinnamon formed by the plain outer margins of the scapulars.

This enigmatical specimen was shot one afternoon in April 1899, as it rested on a shrub. Mr. Keay tells me that he never saw a similar bird in Negros.

Special interest attaches to this example, because it appears to be undescribed. I have refrained, however, from giving it a name, because of the possibility that the bird may eventually prove to be the undiscovered female of *B. menagei* of Bourns and Worcester ('Prelim. Notes on the Birds and Mammals collected by the Menage Expedition,' pp. 11–13, 1894), a species which is as yet known only from the single male specimen obtained on the island of Panay.

Mr. Hartert has seen this specimen and agrees with me that it is a nondescript: he also endorses my views as to its possible relationships and its present uncertain status.

Pelargopsis gigantea Walden; Eagle Clarke, Ibis, 1894, p. 533.

The Philippine Stork-billed Kingfisher, according to Mr. Keay, frequents the mangrove-swamps, where it nests in holes in trees and is fairly common. The native name is "Wac'bata."

Penelopides panini (Boddaert); Eagle Clarke, Ibis, 1894, p. 533.

The so-called Panayan Hornbill is fairly common in Negros and nests in holes in trees. Native name "Talo'say."

Chrysocolaptes xanthocephalus Walden & Layard; Eagle Clarke, Ibis, 1894, p. 534.

Mr. Keay describes this Crimson-backed Woodpecker as being very common in Negros. The native name is "Balalatoc."

Eudynamis mindanensis (Linn.); Eagle Clarke, Ibis, 1898, p. 122.

The Philippine Koel frequents the woods. It makes no nest, but lays its eggs in the nests of Crows, turning out the eggs of the rightful owners and laying its own in their place. Native name "Coma-hao."

Centropus javanicus (Dumont); Eagle Clarke, Ibis, 1898, p. 122.

This Crow-Pheasant is fairly common in Negros, frequenting and nesting in the "bugang," or long grass. The native name is "Saguc-suc."

Haliastur intermedius Gurney; Eagle Clarke, Ibis, 1894, p. 534.

Very common on the beach and inland, and accounts for the loss of many chickens. Native name "Banug," which simply means "Hawk."

ELANUS HYPOLEUCUS Gould; Eagle Clarke, Ibis, 1894, p. 534.

The Black-shouldered Kite is known to the natives as the "Tic'me." It is not a common bird in Negros, and is usually seen singly, flying low over the cane-fields.

79. ARDEA SUMATRANA Raffles.

An adult and immature specimen of the Typhon Heron.

This species is not only new to the avifauna of Negros, but the species does not appear to have been hitherto recorded for the Philippines as zoologically defined. It has, however, occurred in Palawan.

The Negros specimens were shot on the beach on the 15th May, 1889. Mr. Keay tells me that he has often seen them, but never more than two or three at a time, and he regards them as somewhat rare visitors. This Heron is an eastern tropical species, ranging from Borneo to Eastern Australia, and Negros seems to be one of the most northern regions visited by it.

80. DEMIEGRETTA SACRA (Gm.); Worcester & Bourns, Proc. U.S. Nat. Mus. xx. p. 553 (1898).

An adult example in breeding-plumage of the Ashy Egret or Eastern Reef-Heron.

This widely-distributed species has been pretty generally recorded for the isles of the archipelago, but has only recently been detected in Negros.

81. DUPETOR (ARDETTA) FLAVICOLLIS (Latham).

The collection contains an adult male of the Black Heron. Although a wide-ranging Oriental species, it has been obtained in a few only of the Philippines (Cebu, Luzon, Marinduque, Samar, Mindanao), and not hitherto in the island of Negros.

82. NANNOCNUS (ARDETTA) EURYTHMUS (Swinhoe).

An adult male of Schrenck's Little Bittern in the collection enables me to record an interesting extension of the range of this eastern species.

The only previous allusion to this bird for the Philippines, I believe, is that of Messrs. Worcester and Bourns, who appear to have obtained a specimen in the island of Mindanao during the Menage Expedition. The species, however, is merely starred for that island in the useful "List" which forms part of their "Contributions to Philippine Ornithology" (Proc. U.S. Nat. Mus. xx. p. 553, 1898), and these authors make no reference to it in their "Preliminary Notes" on the various birds collected by their expedition.

83. Dissura episcopus (Boddaert).

Melanopelagus episcopus (Bodd.); Sharpe, Trans. Linn. Soc. (2) Zool. i. p. 349 (1876). Negros (*Steere*).

An adult and young of the White-necked Stork or Adjutant.

Mr. Keay informs me that this species breeds in high trees on the borders of the forest, and that the native name for it is "Man'chile."

84. Osmotreron vernans (Linn.); Bourns & Worcester, Prelim. Notes Menage Exped. p. 27 (1894). Negros.

A male of the Parrot Fruit-Pigeon.

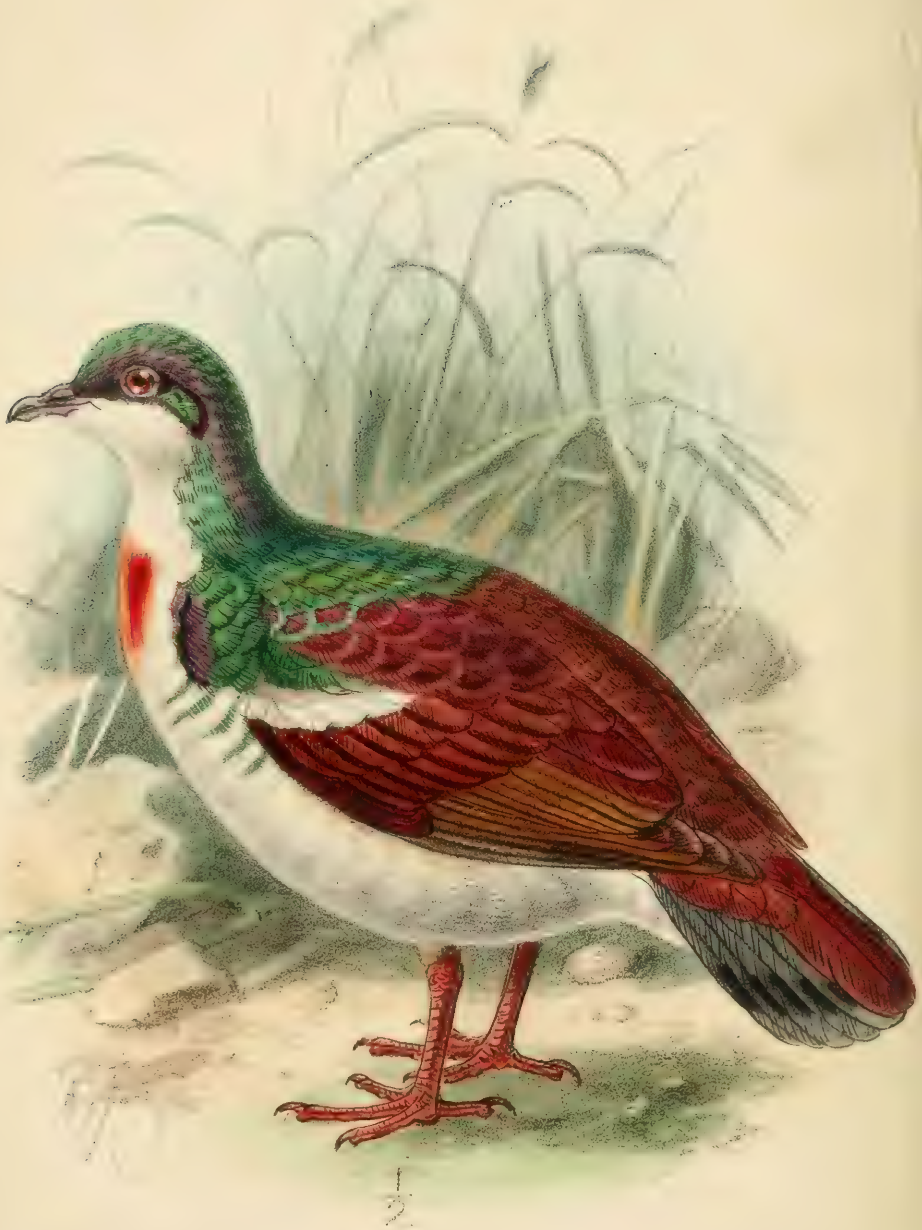
Mr. Keay describes this species as being somewhat scarce, and remarks that it is usually seen in pairs. It does not appear to have come under the notice of the late Mr. Whitehead in any of the islands. The native name is "Cologa'-coga."

Carpophaga ænea (Linn.) (*C. chalybura* Bp.); Eagle Clarke, Ibis, 1898, p. 123.

The Bronze Fruit-Pigeon is very common and nests in high trees in the mountains. It visits the mangrove-swamps near the coast daily in great flocks, "thousands upon thousands of them." The native name is "Balud."

Macropygia tenuirostris G. R. Gray; Eagle Clarke, Ibis, 1895, p. 478.

The Slender-billed Cuckoo-Dove is fairly common in



J. G. Keulemans del. et lith.

Mintern Bros. imp.

PHLOGŒNAS KEAYI.

Negros, but frequents the wooded districts only. The native name is "[illegible]."

87. Chalcophaps indica (Linn.); Walden, Trans. Zool. Soc. ix. p. 205 (1875). Negros (*Meyer*).

A male of the widely-distributed Green-winged Dove.

88. Phlogoenas keayi, sp. nov. (Plate VIII.)

Feathers of the crown, upper part of mantle, hind-neck, sides of the breast, mantle, and lesser wing-coverts (except the [illegible]) edged with dark metallic green, changing to [illegible]; back and rump purplish [illegible] with [illegible] margins to the feathers; upper [illegible] purplish [illegible]; primaries dusky with the [illegible] basal two-thirds of the outer [illegible], dusky towards the tips of the [illegible] and median coverts [illegible] three of their median [illegible] greyish [illegible] with white, the latter [illegible] forming a conspicuous band across the wing; lining of the wing and under wing-coverts chestnut; central pair of tail-feathers dark chestnut, the remainder grey with a broad subapical band of black [illegible]; sides of cheeks, throat, fore-neck, breast, abdomen, and under tail-coverts white (the abdomen washed with fawn in some specimens); flanks and thighs fawn, almost white in some examples; patch on the crop region small and [illegible]; pectoral band narrow and incomplete, and formed by the metallic-green margins on some of the breast-feathers. [illegible]ed. Wing 6·25 inches, tail 3·8, culmen ·78, tarsus 1·1.

Phlogoenas keayi differs from all the other members of the genus to which it belongs in possessing a conspicuous white band across the wing. It most resembles *P. crinigera*, which is found in Mindanao, Basilan, &c., but unlike that species it has (in addition to the white wing-band) the lesser wing-coverts metallic green, the under surface white, and the breast-spot much smaller and of a [illegible] colour, being of the same tint as in *P. luzonica*.

Negros, but frequents the wooded districts only. The native name is "Lua'gow."

85. Chalcophaps indica (Linn.); Walden, Trans. Zool. Soc. ix. p. 385 (1875). Negros (*Meyer*).

A male of the widely-distributed Green-winged Dove.

86. Phlogœnas keayi, sp. nov. (Plate VIII.)

Feathers of the head, upper part of cheeks, hind-neck, sides of the breast, mantle, and lesser wing-coverts (except the distal series) grey, broadly edged with dark metallic green, changing to amethystine; back and rump purplish chestnut with amethystine margins to the feathers; upper tail-coverts purplish chestnut; primaries dusky, with the margins of the outer webs and basal two-thirds of the inner webs chestnut; secondaries chestnut, dusky towards the tips of the inner webs; greater and median coverts purplish chestnut; lesser coverts with two or three of their distal rows subterminally grey, broadly margined with white, the latter colour forming a conspicuous band across the wing; lining of the wing and under wing-coverts chestnut; central pair of tail-feathers dark chestnut, the remainder grey with a broad subapical band of black; lower part of cheeks, throat, fore-neck, breast, abdomen, and under tail-coverts white (the abdomen washed with fawn in some specimens); flanks and thighs fawn, almost white in some examples; patch on the crop-region small and blood-red; pectoral band narrow and incomplete, and formed by the metallic-green margins to some of the breast-feathers. Feet red. Wing 6·25 inches, tail 4·1, culmen ·72, tarsus 1·47

Keay's Blood-breasted Pigeon differs from all the other members of the group to which it belongs in possessing a conspicuous white band across the wing. It most resembles *P. crinigera*, which is found in Mindanao, Basilan, &c., but unlike that species it has (in addition to the white wing-band) the lesser wing-coverts metallic green, the under surface white, and the breast-spot much smaller and of a different colour, being of the same tint as in *P. luzonica*, from Luzon. It is not, however, quite so robust as Mr. Keulemans has depicted it.

There are three specimens in the collection.

It is somewhat remarkable that this species should have remained so long undetected, for Mr. Keay tells me that he has known it for nearly twenty years, and has on several occasions kept examples in cages as pets. He was not a little surprised when I assured him that the species was new. Mr. Keay further informs me that the bird is fairly common in the woods, but comes regularly to the river to drink, and is then captured by the "boys." The native name is "Penes."

It gives me great pleasure to name this beautiful Pigeon after Mr. Keay, as a small recognition of the services he has rendered to Philippine ornithology.

Gallus ferrugineus (Gm.); Eagle Clarke, Ibis, 1895, p. 479.

The collection contains a female Jungle-fowl which is entirely black, with greenish-metallic reflection.

At first I much doubted if such a melanic specimen was likely to be of wild origin. Mr. Keay, however, assures me that the bird was not a roving specimen. It was seen for several days on the margin of the forest, in company with a normally-plumaged cock, and was finally secured by Mr. Keay with some difficulty, as it was very wary and smart on the wing. When shot it towered to a height of over 150 feet, and then fell dead.

Mr. Keay is convinced that it is a genuinely wild Jungle-fowl; and, if measurements are any guide in the case, the specimen is certainly only of normal dimensions, the wing being 7·5 inches. On the other hand, I am unaware that this species is variable in plumage, and can find no mention of its being liable to melanism.

Hypotænidia torquata (Linn.); Eagle Clarke, Ibis, 1898, p. 123.

Very common and nests in the long grass. Native name "Tickling."

Gallicrex cinerea (Gm.); Eagle Clarke, Ibis, 1894, p. 535.

Nests in the long grass, but is not common. Native name "Manugtul."

The specimen sent was shot in a field of young cane on the 8th of April, 1899.

XIX.—*Bulletin of the British Ornithologists' Club.*

Nos. LXVII.–LXIX.

No. LXVII. (December 30th, 1899).

The sixty-sixth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 13th of December, 1899. *Chairman*: P. L. Sclater, F.R.S. Twenty-five Members and five guests were present.

The Chairman referred in feeling terms to the loss which ornithological science had sustained by the death of Dr. A. C. Stark, who had been killed by a shell during the recent fighting at Ladysmith in Natal, whither he had repaired to render medical aid to the wounded soldiers.

A vote of condolence to the relatives of the deceased naturalist was unanimously passed by the Meeting.

Dr. Bowdler Sharpe also alluded to the untimely death of Colonel Henry P. Northcott, during the first battle on the Modder River. A list of the birds obtained by the deceased officer in the hinterland of the Gold Coast had recently appeared in the 'Bulletin' (see above, p. 183).

The Hon. Walter Rothschild, M.P., exhibited a pair of the rare *Eupetes geislerorum*, A. B. Meyer.

This species had been described from German New Guinea by Dr. Meyer, and had not before been seen in any English collection, having hitherto been known only from the types in the Dresden Museum. It was remarkable for the different colour of the sexes; and examples collected by

Mr. A. S. Meek at Collingwood Bay, in the northern portion of British New Guinea, were laid on the table.

Mr. E. Hartert described a new species of Weaver-Finch from Equatorial Africa as follows:—

Pytelia ansorgei, sp. n.

♂ *ad.* Upper surface yellowish olive, rather greener on the wings; head black; quills blackish, externally olive-green; tail-feathers black, the outer ones rather more greyish black, the central feathers edged with green towards the base; breast, abdomen, and under tail-coverts dark grey, the sides of the chest yellowish olive; under wing-coverts and inner margins of quills white.

Hab. Wemo River, Toru, Uganda Protectorate (*Dr. Ansorge*).

Obs. The nearest ally is apparently *Pytelia sharpei*, but the black head and other differences in the plumage easily distinguish this new species.

Mr. Hartert also pointed out that, although Dr. Bowdler Sharpe was undoubtedly right in recognizing three forms of small *Melittophagi* in Africa, in contrast to the opinion of Mr. Dresser with respect to *M. pusillus* and its allies, there could be no doubt that the former author had misapplied the name of *M. cyanostictus*, Cab., in the 'Catalogue of Birds.' The bird called *M. meridionalis* by Dr. Sharpe was in fact the true *M. cyanostictus* of Cabanis, as Mr. Hartert had ascertained from a careful comparison of the original description and from a personal examination of the type in the Berlin Museum. He therefore proposed for the East African bird, *M. cyanostictus*, Sharpe et auct. (nec Cabanis), the amended name of

Melittophagus sharpei.

Further notes on these species of Bee-eater would be published in an early part of the 'Novitates Zoologicæ.'

Mr. F. D. Godman forwarded the descriptions of two apparently new species of Peruvian birds:—

XENOPIPO SUBALARIS, sp. n.

♂ *ad.* Similis *X. atronitenti,* sed subalaribus et axillaribus niveis distinguenda. Long. tot. 4·9 poll., culm. 0·5, alæ 3·0, caudæ 1·95, tarsi 0·6.

♀ *ad.* Similis ♀ *X. atronitentis,* sed obscurior, sordidè olivascenti-viridis, abdomine minimè flavicanti, et subalaribus niveis distinguenda. Long. tot. 5·0 poll., culm. 0·55, alæ 2·8, caudæ 1·9, tarsi 0·6.

Hab. Guayabamba, N. Peru (*O. T. Baron*).

COLUMBA VINA, sp. n.

♂ *ad.* Similis *C. flavirostri,* Wagl., et *C. rufinæ,* Salvin, sed rostro ad basin flavo, ad apicem nigro: ab illo notæo pulchrè vinaceo, ab hoc pileo et gutture vinaceo distinguenda. Long. tot. 14·0 poll., culm. 0·8, alæ 8·1, caudæ 5·0, tarsi 0·95.

Hab. Vina, Huamachuco, N. Peru (*O. T. Baron*).

Dr. BOWDLER SHARPE described as new the following species of African birds:—

ANDROPADUS LÆTISSIMUS, sp. n.

♂ *ad.* Colore *Xenocichlæ ictericæ* ex Indiâ, sed præpectore paullulum olivascenti-viridi adumbrato: subcaudalibus olivascenti-flavis, hypochondriis concoloribus, nec lætè flavis distinguendus. Long. tot. 9·0 poll., culm. 0·85, alæ 4·4, caudæ 3·8, tarsi 1·0.

Hab. Nandi, Equat. Africa (*F. J. Jackson*).

PARISOMA JACKSONI, sp. n.

♂ *ad.* Similis *P. lugenti,* Rüpp., sed pileo brunneo, dorso concolore distinguendus. Long. tot. 5·5 poll., culm. 0·5, alæ 2·6, caudæ 2·4, tarsi 0·9.

Hab. Mt. Elgon, Equat. Africa (*F. J. Jackson*).

Obs. This specimen was referred ('Ibis,' 1892, p. 302) to *Parisoma lugens* (Rüpp.), but the rediscovery of the true *P. lugens* in Southern Abyssinia showed that the Elgon bird was a distinct species, and the describer was indebted to Mr. Ogilvie Grant for drawing his attention to the differences in the two forms.

EUPRINODES HILDEGARDÆ, sp. n.

♂. Similis *E. schistaceo,* Cass., sed rectricibus externis tantùm albo marginatis, haud omninò albis, et pectore

pallidè cervino distinguenda. Long. tot. 4·0 poll., culm. 0·4, alæ 1·8, caudæ 1·75, tarsi 0·6.

Hab. Athi river, Masai Land (*Dr. S. L. Hinde*).

BUBO MACKINDERI, sp. n.

♀ *ad.* Similis *B. capensi,* sed subtùs maculis magnis nigris triquetris notatus, hypochondriis sparsiùs nigro fasciatis, et maculis nigris triquetris notatis. Long. tot. 22·5 poll., culm. 1·8, alæ 16·4, caudæ 8·2, tarsi 3·25.

♂ *ad.* Similis feminæ, sed minor. Long. tot. 21 poll., alæ 14·6.

Hab. Mount Kenia, E. Africa (13,000 feet).

Dr. SHARPE also exhibited a series of specimens from the New Hebrides group of islands, procured by Capt. A. M. Farquhar, of H.M.S. 'Wallaroo,' and recently presented by him to the British Museum. Many rare species, such as *Aplonis rufipennis,* Layard, were represented in the collection, and the following, which appeared to be new, were described:—

1. LALAGE FLAVOTINCTA, sp. n.

Similis *L. banksianæ,* sed pectore toto, uropygio, secundariis intimis, tectricum et rectricum apicibus pulchrè flavis. Long. tot. 6·2 poll., culm. 0·7, alæ 3·0, caudæ 2·3, tarsi 0·85.

Hab. Ins. 'Espiritu Santo' dictâ.

2. RHIPIDURA SANCTA, sp. n.

Similis *R. verreauxi* ex Novâ Caledoniâ, sed pileo et facie laterali nigricantibus, gutture et præpectore griseo-albidis, hoc sparsiùs nigro maculato distinguenda. Long. tot. 7·5 poll., culm. 0·65, alæ 3·1, caudæ 3·5, tarsi 0·9.

Hab. Ins. 'Espiritu Santo' dictâ.

3. CLYTORHYNCHUS GRISESCENS, sp. n.

Similis *C. pachycephaloidi*, sed loris, facie laterali, gutture et præpectore grisescentibus distinguendus. Long. tot. 8·8 poll., culm. 0·95, alæ 3·4, caudæ 3·05, tarsi 0·7.

Hab. Ins. 'Espiritu Santo' dictâ.

4. CLYTORHYNCHUS VATENSIS, sp. n.

Similis *C. pachycephaloidi,* sed rostro longiore, loris et facie laterali fuscescentibus, minimè nigris, subcaudalibus albido marginatis distinguendus. Long. tot. 7·5 poll., culm. 1·05, alæ 3·6, caudæ 3·3, tarsi 0·9.

Hab. Ins. 'Vaté' dictâ.

5. Glyciphila notabilis, sp. n.

Staturâ *G. fasciatæ* (Forst.) ex Novâ Caledoniâ, sed gastræo pallidè cinereo, corporis lateribus cinerascentibus, brunneo striatis, distinguenda. Notæo brunneo, concolore, pileo nigricante, supercilio punctatim albo-maculato, facie laterali quoque nigricante, minutè albido punctulatâ insignis. Long. tot. 7·5 poll., culm. 1·3, alæ 3·5, caudæ 2·95, tarsi 1·2.

Hab. in ins. 'Vanua Lava' dictâ.

6. Halcyon farquhari, sp. n.

Similis *H. leucopygio*, sed uropygio ultramarino dorso concolore distinguendus: torque collari albo: pileo nigro, fasciâ superciliari supra-paroticâ ultramarinâ: gutture toto et colli lateribus albis: præpectore et gastræo reliquo aurantiaco-cinnamomeis. Long. tot. 8·2 poll., culm. 1·5, alæ 3·45, caudæ 2·3, tarsi 0·5.

Hab. Ins. 'Malikolo' et 'Espiritu Santo' dictis.

Obs. Ad sectionem Alcedinidarum '*Cyanalcyon*' dictam referendus, et forsan *Cyanalcyon farquhari* nuncupandus.

Mr. Sclater gave a short account of his recent journey to the Cape of Good Hope, and concluded with the following remarks on some of the birds of the Cape peninsula:—

"In the suburbs of Capetown and in the immediate vicinity of that city, where I spent the greater part of my short stay in South Africa, birds, it must be confessed, are by no means abundant, either in species or in individuals. Although I was always on the look out for them and made short excursions into the surrounding country nearly every day, mainly for the purpose of observing them, I did not succeed in recognizing positively more than from 20 to 25 species, and of some of these I saw but very few examples.

"The commonest and most pervading bird in Capetown and its vicinity at the time of year when I was there (September and October, answering to our March and April) was certainly the Cape Dove (*Turtur capicola*). The somewhat harsh and grating love-call of this species could be heard at all times of the day, both in the city and suburbs, although it was not always easy to discover the exact position of the utterer. The call is something like the three syllables '*kah-kay-whoo*,' with the last note much prolonged. The bird was evidently intending to breed everywhere, like our Wood-Pigeon in the parks of London and Paris. I also occasionally saw and heard a rather smaller Dove with a much softer and quite different call, which I take to have been *Turtur senegalensis*.

"The other birds that I most frequently noticed in the gardens at Capetown were the Cape Sparrow (*Passer arcuatus*), the Cape Wagtail (*Motacilla capensis*), and the Collared Shrike (*Lanius collaris*).

"The Cape Sparrow is certainly not nearly so abundant as its British representative in London, but seems to have nearly similar habits. It was commencing to breed in the gardens, and builds nests similar to those of its European ally. The Cape Wagtail may be seen pursuing insects on the well-kept grass-plots surrounding the Parliament House, and is quite tame and familiar.

"The Collared Shrike, which I saw every day on passing through the Municipal Gardens up to the Museum, shows its pied plumage well amongst the green foliage of the trees. It is a most ferocious little villain, and if care is not taken it will enter the verandas and kill the pet birds there suspended in their cages. Two instances of the death of canaries in this way occurred during my stay in Capetown.

"The Olivaceous Thrush (*Turdus olivaceus*), the 'Sprew' Starling (*Amydrus morio*), the so-called Cape 'Robin' (*Cossypha caffra*), and the Bakbakiri Bush-Shrike (*Laniarius bakbakiri*) are four other species that are occasionally seen in the gardens of the town and suburbs, but I should not call any one of them abundant. The Olivaceous Thrush picks about on the ground like our Song-Thrush, and the Bush-Shrike has somewhat similar habits, but attracts attention by a variety of sweet whistling notes and is said to have imitative faculties.

"A loquat-tree (*Photinia japonica*) with ripening fruit is the most likely place to see the Cape Bulbul (*Pycnonotus capensis*). The ridiculous claim of this bird to figure in the British List should be scouted by all sensible persons. It is a strictly local South-African species and does not range far north.

"The pretty Yellow Weaver-bird (*Sitagra capensis*) I was delighted to find busy in constructing its excessively neat hanging nests in many gardens of the city and suburbs. One small community had selected a willow-tree close to the Public Library, near the celebrated Oak-walk, for the purpose. I never failed to stop as I passed by every day to admire the sprightly and active way in which these little birds exercised their craft. In another spot the ill-advised builders had selected a bunch of papyrus-stalks in an ornamental pond for the seat of their operations. So soon as the nest was complete the weight of the structure broke the papyrus down, and caused the fall of stalk and nest into the water beneath. But the indefatigable birds would take no heed of this event, and commenced their fruitless work again on an adjoining stalk.

"In a garden at Sea-point, the marine suburb of Capetown, I was much delighted, on an afternoon in September, to witness the proceedings of a small flock of Colies (believed to have been *Colius capensis*). They were creeping about in a small tree-like shrub, and having searched it thoroughly through proceeded to another. Their curious mouse-like climbing antics and the positions assumed are known to us from captive specimens in the Regent's Park, but this was my only opportunity of witnessing their evolutions in a natural condition. As the eggs of this isolated form—one of the most distinctive Ethiopian types of bird-life—are not well known, I beg leave to exhibit some specimens of them.

"On the margin of the pond on Sea-point Common I also noticed specimens of a Pipit (*Anthus* sp. inc.) and a small Shore-Plover (*Ægialitis*), but could not be certain as to the species.

"Two ascents of the well-known and most picturesque mountain which rises to a height of some 2500 feet above Capetown, introduced me to several birds which I had not seen below. The splendid *Protea*-shrubs just coming into flower were the resort of two forms of bird-life which were quite new to me *in naturâ.* These were the long-tailed *Promerops cafer*—another exclusively Ethiopian type—and the Sun-birds (*Anthobaphes* and *Cinnyris*). *Promerops* appears to have been modified specially to feed on the nectar of the species of Proteaceæ which are so abundant on the hills of Southern Africa, but, no doubt, it also avails itself of the insects attracted to the same flowers. On Table Mountain I also observed specimens of a very fine Rock-Thrush—*Monticola explorator,* I believe—and an occasional Crow (*Corvus scapulatus*). Of the latter a single specimen appears to have taken up its abode in the garden of Groot Schuur, in the society of the Rooks which Mr. Rhodes has lately imported from Europe.

"On the Cape Flats just outside Capetown the Secretary-bird (*Serpentarius secretarius*) still builds its nest every year, though I did not myself see it in this locality. A pair of young Secretary-birds now in the Museum Grounds at Capetown were obtained here in 1898, and two eggs were taken from the same nest on the 15th October this year. It is curious that our familiar Heron (*Ardea cinerea*) inhabits the 'vleys' in the same district, and that the Great Crested Grebe (*Podicipes cristatus*) is a regular breeder there.

"Finally, I may mention that enormous flocks of the Dominican Gull (*Larus dominicanus*) and the Cape Cormorant (*Phalacrocorax capensis*) frequent the harbour of Table Bay, and are accompanied by small parties of the Cape Penguin (*Spheniscus demersus*). Outside the harbour the ships are likewise attended by numerous Giant Petrels (*Majaqueus æquinoctialis*) and occasional Albatrosses (*Diomedea melanophrys*)."

Mr. E. Bidwell exhibited an egg of the Great Auk (*Alca impennis*), which had been lent to him by Mr. Henry Stevens, to whom it had that day been consigned for sale, At the moment nothing was known of its history, but particulars would shortly be forthcoming and would be contributed to the 'Ibis.' This egg was undoubtedly the handsomest example of the 'zoned' type in existence. Its discovery brought the number of known eggs of the Great Auk to 72.

Mr. E. Lort Phillips exhibited several interesting species of birds obtained during his expedition to Somali Land in the spring of 1899, among them being four examples of *Francolinus castaneicollis*, Salvad., obtained on Mt. Wagga. The egg of *Spreo superbus* was obtained during the expedition, and proved to be perfectly blue, without any spots.

Mr. Charles Hose, whose reappearance, after six years' absence in Borneo, was warmly greeted by the members of the Club, exhibited some rare birds obtained by him. Among them was a specimen of *Botaurus stellaris*, hitherto unrecorded from Borneo; a pair of *Pitta cærulea* with the nestling (showing that the species was indigenous to Northern Borneo); and examples of *Baza borneensis* and *Spizaëtus alboniger*, affording an extraordinary instance of mimetic colouring in the plumage of the two species.

No. LXVIII. (January 31st, 1900).

The sixty-seventh Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 17th of January, 1900. *Chairman*: P. L. Sclater, F.R.S. Thirty-six Members and fourteen guests were present.

Dr. Bowdler Sharpe described the following species from the Mackinder expedition to Mt. Kenya:—

1. Hyphantornis camburni, sp. n.

♀. Similis *H. xanthopi*, sed minor, subtùs lætiùs flava: supercilio flavo paululum conspicuo, sed rostro multo

minore præcipuè distinguenda. Long. tot. 6·5 poll., culm. 0·7, alæ 3·3, caudæ 2·5, tarsi 1·1.

Hab. Mt. Kenya, British East Africa.

2. PINAROCHROA ERNESTI, sp. n.

P. similis *P. hypospodiæ*, Shelley, sed suprà saturatior: subtùs isabellino-brunnea nec grisescens, gutture tantum cinerascente: subalaribus et axillaribus rufescentibus distinguenda. Long. tot. 5·7 poll., culm. 0·6, alæ 3·1, caudæ 1·85, tarsi 1·2.

Hab. Mt. Kenya.

3. CAMPOTHERA HAUSBURGI, sp. n.

Similis *C. tæniolæmati*, Reichen. & Neum., sed clarius viridis, et faciei gastræique fasciolis tenuissimis et pallidioribus distinguenda. Long. tot. 7·0 poll., culm. 0·85, alæ 4·35, caudæ 2·55, tarsi 0·8.

Hab. Mt. Kenya.

Mr. W. R. OGILVIE GRANT described the following new species from the Five-finger Mountains, in the interior of Hainan, collected by the late Mr. John Whitehead:—

1. SIPHIA HAINANA, sp. n.

Adult male. Allied to the male of *S. pallidipes*, Jerd., but much smaller—the blue on the upper parts darker and brighter, the forehead and superciliary stripes bright cobalt-blue, and the flanks and sides of the belly grey, slightly washed with fulvous.

Total length 5·0 inches, culmen 0·6, wing 2·65, tail 2·3, tarsus 0·65.

Adult female. Differs conspicuously from the female of *S. pallidipes*, the general colour of the head and upper parts being darker and more uniform, the upper tail-coverts and outer webs of the tail-feathers olive-brown tinged with rufous instead of chestnut, and the colour of the throat, fore-neck, and chest pale rust-colour instead of deep orange-rust.

Total length 5·0 inches, culmen 0·6, wing 2·6, tail 2·15, tarsus 0·65.

2. HARPACTES HAINANUS, sp. n.

Adult male. Differs from the male of *H. erythrocephalus*, Gould, in having the head and nape uniform dull purplish crimson and the upper parts much browner, especially the mantle and upper back; the lower back, rump, and upper tail-coverts only being washed with chestnut; the lower part of the chest next the white band dull crimson instead of scarlet-crimson; and the white tips to the outer tail-feathers shorter, the longest scarcely exceeding 1·1 inch.

Total length 12·0 inches, wing 5·5, tail 6·0.

Adult female. Differs from the female of *H. erythrocephalus* in having the general colour of the upper parts and chest much browner.

Total length 12·0 inches, wing 5·3, tail 5·7.

Mr. GRANT also described the following new species from Southern China, collected by Capt. A. M. S. Wingate:—

1. SITTA YUNNANENSIS, sp. n.

Adult male. Most nearly allied to *S. montium*, La Touche, from which it is at once distinguished by its much more slender bill and the entire absence of chestnut from the sides, flanks, and under tail-coverts, which are uniform greyish buff, like the rest of the underparts. Iris brown.

Total length in the flesh 4·5 inches, culmen 0·65, wing 2·8, tail 1·5, tarsus 0·65.

Hab. Near Wei-yuan, Southern Yunnan, 12th March, 1899.

2. PHYLLOSCOPUS SUBAFFINIS, sp. n.

Adult male and female. Differ from *P. affinis*, Tickell, in having the terminal half of the lower mandible, as well as the legs and feet, very dark horn-brown; the underparts strongly washed with dull fulvous; the clear yellow of the underparts, so conspicuous in *P. affinis*, being merely indicated on the middle of the breast and belly. The species resembles *P. affinis* in the shape of the wing, the second primary being about equal to the tenth. Iris black.

Total length in the flesh 4·5 inches, culmen 0·5, wing 1·95–2·05, tail 1·8, tarsus 0·75.

Hab. Pu-an-ting, South-west Kwei-chu, 27th January, 1899.

3. Siva wingatei, sp. n.

Adult male. Allied to *S. cyanuroptera*, Hodgs., and *S. sordida*, Hume. It resembles both in the general colour of the upper parts, the grey of the head and neck, shading into olive-brown on the back and fulvous on the rump and upper tail-coverts. It further resembles *S. cyanuroptera* and differs from *S. sordida* in having the chin, throat, sides, and flanks washed with vinous grey. It differs from *S. cyanuroptera* and resembles *S. sordida* in having no white tips to the bastard wing-feathers. From both it differs in having only the inner webs of the outer pair of tail-feathers white to the tip; moreover, the feathers on the forehead, lores, and chin are strongly washed with rusty pink, though it is just possible that this colour may be due to stain. Iris brown.

Total length 6·0 inches, culmen 0·6, wing 2·5, tail 2·5, tarsus 0·9.

Hab. Near Yunnan city, E. Yunnan, 27th February, 1899.

Mr. Grant further described three additional new species from Southern Abyssinia, collected by Mr. H. Weld-Blundell and Lord Lovat:—

1. Dendropicus simoni, sp. n.

Adult male. Allied to the male of *D. zanzibari*, Malh., but easily distinguished by the following characters:—The forehead and fore part of the crown are darker brown; the cross-bars on the interscapular region and back indistinct and of a dull greenish-white colour; the wing-coverts brownish black, the lesser and median with a white spot at the extremity; the white feathers of the sides of the head and ear-coverts *striped with black on either side*, those of the throat with narrow black shaft-stripes; the chest and breast more strongly marked, and the *upper surface* of the shafts of the primary and secondary quills, except the extreme basal portion, *brown.* Iris brown; bill dark slate; legs slate.

Total length about 5·5 inches, culmen 0·7, wing 3·2, tail 1·6, tarsus 0·6.

Hab. Konduro, Abyssinia, 25th March, 1899.

2. INDICATOR LOVATI, sp. n.

Adult female. Resembles *I. minor*, Steph., in the colour of the upper parts, wings, and tail, but differs from that species in having the heavy black moustachial streaks confluent on the chin; the throat dull grey, with a slight greenish tinge, uniform in colour with the breast; and the longer flank-feathers dark smoky brown, edged with white on the sides.

From *I. conirostris* (Cass.), which it approaches in the latter characters, it may be at once distinguished by the greyish-brown colour of the head and neck and the much duller yellow colouring of the back and wing-coverts. Iris brown; bill and legs black.

Total length about 6·0 inches, culmen 0·5, wing 3·5, tail 2·25, tarsus 0·55.

Hab. Gelongol, Abyssinia, 13th March, 1899.

3. LISSOTIS LOVATI, sp. n.

Adult male. Most nearly allied to *L. melanogaster* (Rüpp.), which it resembles in general appearance, but the middle three-fifths of the outer webs of the secondary quills are pure white to the shaft. In this respect it approaches *L. hartlaubi* (Heugl.), but the differently-marked plumage of the upper parts, as well as the black rump and tail, serve to distinguish the latter species at a glance. Iris pale yellowish brown; bill dark; legs pale yellowish white.

Total length about 23·0 inches, culmen 1·95, wing 13·8, tail 7·6, tarsus 5·1.

Hab. Bilo, Abyssinia, 10th March, 1899.

Mr. ERNST HARTERT exhibited two hybrids of Humming-birds. One, obtained in Ecuador by Mr. Simons, combined in a striking way the shape and colours of *Eugenia imperatrix* and *Heliodoxa jacula jamesoni*, both found in that country; another, obtained by Mr. O. T. Baron in California, was intermediate between *Calypte costæ* and *Stellula calliope*.

These specimens are to be described in detail in the 'Novitates Zoologicæ.'

The Hon. Walter Rothschild made some remarks on the *Lalage* of the Samoan Islands, which he proposed to call

Lalage sharpei, sp. n.

Bill yellow, tip brownish, upper surface greyish brown, sides of rump white, remiges deep brown edged with dirty white. Tail deep brown, all the feathers except the central pair tipped with white, the two outer pairs white for the apical third. Underside white, with many pale brown cross-bars on sides of breast and flanks; under tail-coverts white; under wing-coverts creamy white. "Iris white." Wing 77–81 mm., culmen 19–20, tail 55–60, tarsus 21.

Hab. Upolu, Samoa.

Mr. Rothschild observed:—"Dr. Sharpe was the first to draw attention to this bird (Cat. B. iv. p. 98), but he considered it to be the young of the *Lalage pacifica*. However, the young examples of that species now exhibited from the same place prove it to be quite distinct, being dark brown above and heavily barred below. I am convinced that the type of my new species is fully adult, and that the immature plumage will prove to be equally distinct.

"The bill of *Lalage sharpei* is longer, narrower, and more flattened than in *L. pacifica*."

The Hon. Walter Rothschild exhibited and remarked on some specimens of typical *Cracticus quoyi*, Lesson, from New Guinea, and also on three specimens of what had hitherto been called *C. quoyi* from Queensland. In the bird from New Guinea the young was black, like the adult, while in the Queensland bird the young was reddish brown and striped. The latter had been lately described as a new species under the name of *Cracticus rufescens*. It was by no means definitely ascertained whether these rufous birds were the only form of the young on the Australian continent, and therefore Mr. Rothschild did not wish to decide as to the validity or otherwise of Mr. De Vis's *Cracticus rufescens*; but the fact that, so far as at present known, the young from New Guinea were always black, showed that we had to deal with at least two distinct races. These birds had been sent to Mr. Rothschild by Mr. Herbert C. Robinson, of Liverpool, who wished them to be exhibited to the Club.

Mr. H. J. Pearson exhibited, on behalf of Mr. P. Musters, a pair of Lesser White-fronted Geese (*Anser erythropus*), with the eggs, taken by the latter gentleman in the north of Norway.

Mr. P. Crowley exhibited some photographs of interesting eggs from his collection.

The remainder of the evening was devoted to an exhibition of lantern-slides of birds and nests.

No. LXIX. (February 28th, 1900).

The sixty-eighth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 21st of February, 1900. *Chairman*: P. L. Sclater, F.R.S. Thirty-three Members and six guests were present.

The Hon. Walter Rothschild exhibited an example of a new species of Hemipode from North Queensland, sent to him by Mr. Herbert C. Robinson, who had described it as follows:—

Turnix olivii, sp. n.

♀. Most nearly allied to *T. castanonota* (Gould) ♀ and resembling it in general coloration, but differing in its much larger size, in having the forehead grey without white tips to the frontal feathers, and with the superciliaries and sides of the face not conspicuously marked with white; the feathers of the lower neck and breast with a decided wash of oily greyish-green and with slightly indicated bars of dull greyish, without white centres as in *T. castanonota*. "Iris yellow; feet yellow; bill brown" (dull greenish olive in skin).

Total length 183 mm., wing 106, tail 48, culmen 23, tarsus 25.

Hab. North Queensland (Cooktown, June 25th, 1899).

The species had been named after its collector, Mr. E. Olive, who is known in Australia as a careful and accurate field-naturalist.

Mr. Rothschild also exhibited a specimen of *Geocichla papuensis* of Seebohm, which he had recently received from the Aroa River, British New Guinea. He pointed out the mature characters of the species, which had been originally described from an immature specimen, hitherto unique, in the British Museum.

Mr. Harry F. Witherby exhibited a specimen of *Limosa lapponica* in down, obtained out of a brood of four from a marsh near the Imandra Lake, in Russian Lapland, on the 16th of July, 1899.

Mr. Ernst Hartert showed some nesting-boxes for the encouragement of birds which breed in holes. The "practical" bird-protection, which was warmly advocated on the Continent by Freiherr von Berlepsch, aimed at furnishing new breeding-places for useful birds, natural food in hard winter-times, and cover and protection against their enemies. The feeding in winter-time was not so easy, and on this subject Berlepsch's book might be read with advantage. The planting of thick bushes, especially those with thorns, and berry-bearing species which were liked by birds, instead of the foreign evergreens and shrubs which only a few birds really loved, was not within the means of every one, and could only be done by landowners who were interested in birds; but the putting up of nesting-boxes was practicable almost everywhere, in gardens, parks, and woods, on a large or small scale. In Germany, nesting-boxes were a very old institution, but they had not met with general approval, because they had not hitherto been quite successful. Now, however, von Berlepsch had invented nesting-boxes like those exhibited, and they were a wonderful success. They were imitations of the holes made by Woodpeckers, and were readily accepted by birds, especially by Tits. They must, however, be put up properly, and in Berlepsch's book on bird-protection some good instructions were given. Mr. Charles Rothschild and Mr. Walter Rothschild had introduced them on a small scale in various places, and Mr. Hartert hoped to be able to report concerning their success during the next session of the Club, and he trusted that other ornithologists would advocate them. They could be had for about sixpence each, from a firm in Westphalia, who were making them according to Berlepsch's instructions.

Mr. **Ernst Hartert** exhibited and explained an instrument invented by Mr. L. Wiglesworth, which he called a "Ratiometer," the object of which was to ascertain the proportions that different-sized specimens (or parts of specimens) bear one to another. Mr. Hartert also announced that Mr. Wiglesworth was experimenting with some other instruments likely to be of use in measuring animals. Mr. Hartert also read some notes by Mr. L. Wiglesworth (who was not able to be present) about the question "How a Bird-skin should be measured."

Mr. **Heatley Noble** exhibited a pair of eggs of the Spine-tailed Swift from Nerochinski, and also the nest, eggs, and nestling birds of White's Thrush (*Oreocichla varia*), which had been obtained from Mt. Fuji Yama, in Japan, by Mr. Alan Owston. He considered that these eggs were undoubtedly authentic, and they closely resembled those of the Himalayan *O. dauma*; whereas the nest and eggs obtained by the late Consul Swinhoe, and supposed by him to have been those of White's Thrush, probably belonged to *Merula mandarina*.

Mr. **Walter Goodfellow** described a new species of Humming-bird, discovered by himself and Mr. Claud Hamilton during their recent travels in Ecuador:—

Heliantea hamiltoni, sp. n.

H. similis *H. lutetiæ*, sed maculâ frontali aureo-viridi, et gastræi nitore metallico bronzino-viridi, plagâ alari pallidâ cinnamomeâ, nec albicante, distinguenda. Long. tot. 5·0 poll., culm. 1·6, alæ 2·9, caudæ 1·7, tarsi 0·2.

Hab. Papallacta, near Antisana, E. Ecuador.

Of this species Mr. Goodfellow had procured, in February 1899, a series of both male and female specimens, all of which were perfectly constant as regards the characters mentioned above. All the birds from the *western* slope of the Andes of Quito proved to be the true *H. lutetiæ*, of which the travellers had also procured a good series.

Dr. Bowdler Sharpe exhibited another British-killed specimen of the Levantine Shearwater (*Puffinus yelkouanus*), which had been sent by Mr. Charles Smoothy, of Little Baddow, near Chelmsford. The specimen had been obtained at Bridlington Quay, Yorkshire, in October 1898. [*Cf.* Bull. vol. viii. p. xxix.]

Dr. Sharpe exhibited and described a new species of Bee-eater, obtained by Mr. G. L. Bates on the Rio Benito in French Congo:—

Merops batesiana, sp. n.

♂. Similis *M. muelleri*, Cass., sed saturatior, facie laterali, colli lateribus et præpectore toto nigris: notæi colore castaneo ubique saturatiore distinguenda. Long. tot. 8·0 poll., culm. 1·4, alæ 3·2, caudæ 2·95, tarsi 0·35.

The specimen from the Benito River differed so much from the figure of the type of *M. muelleri* given by Cassin in the 'Transactions' of the Philadelphia Academy, that Dr. Sharpe had written to Mr. Witmer Stone on the subject. The latter gentleman having assured him that the figure was an accurate rendering of *M. muelleri*, it became evident that not only was the Benito bird distinct, but also the so-called *M. muelleri* from the Gold Coast. This Dr. Sharpe proposed to name in honour of Colonel Northcott, who had done excellent work in the Hinterland of the Gold Coast, and was killed at the Modder River in November last.

MEROPS NORTHCOTTI, sp. n.

M. similis *M. muelleri,* Cass., castaneus, sed præpectore nigro, pectore ultramarino et abdomine cyanescente distinguenda. Long. tot. 7·1 poll., culm. 1·4, alæ 3·3, caudæ 3·05, tarsi 0·4.

Hab. Gold Coast (*Shelley Coll. in Mus. Brit.*).

These species may have to be placed, according to Dr. Sharpe, in the genus *Melittophagus,* in which case they would be called *Melittophagus muelleri,* Cass., *M. batesianus,* and *M. northcotti.* The type of the last species, however, has the central tail-feathers elongated, but all the other specimens known have the tail square.

Mr. W. R. OGILVIE GRANT sent the following description of another new species of bird collected by the late Mr. John Whitehead in Hainan:—

GARRULAX SEMITORQUATA, sp. n.

Adult male. Most nearly allied to *G. pectoralis,* Gould, having the ear-coverts similarly striped. It is, however, much smaller and at once distinguished by the following characters:—The black band surrounding the throat is widely interrupted in the middle, the outer webs of the outer primary quills are brownish buff instead of white, and the tips of the tail-feathers are yellowish buff.

Adult female. Differs only from the male in having the white streaks on the ear-coverts more strongly marked.

Iris straw-colour to reddish brown; upper mandible leaden-black; lower mandible and feet leaden-grey.

Total length about 11 inches, culmen 1·25, wing 5·1, tail 4·8, tarsus 1·75.

Hab. Five-finger Mts., interior of Hainan.

Mr. GRANT also described a new Shrike from Arabia, obtained by the Percival-Dodson Expedition:—

TELEPHONUS PERCIVALI, sp. n.

Adult male. Like *T. blanfordi,* Sharpe, but rather smaller, the bill especially being not nearly so stout; the fore-neck, chest, and rest of underparts much greyer, and the rufescent margin to the inner web of the quills, so conspicuous in *T. blanfordi,* barely indicated. Iris brown; bill black; legs grey.

Total length 7·5 inches, culmen 0·88, wing 3·0, tail 3·4, tarsus 1·2.

XX.—*Notices of recent Ornithological Publications.*

[Continued from p. 217.]

34. *Chapman (F. M.) on the Birds of Greenland.*

[Report on Birds received through the Peary Expeditions to Greenland. By Frank M. Chapman. Bull. Am. Mus. N. H. xii. pp. 219-244 (1899).]

Mr. Chapman reports on three collections of birds made during the recent Peary expeditions to Greenland, and presented to the American Museum of Natural History by Mr. M. K. Jesup. The 'Peary' collection contains 82 specimens obtained at various localities; in the 'Dyche' collection are 244 specimens acquired by Professor L. L. Dyche during the Peary Expedition of 1895; and in the "Figgins" collection are 162 specimens collected by Mr. J. D. Figgins, who was naturalist to the Peary Expedition of 1896. The whole series, comprising about 500 specimens, is referred by the writer to 48 species, none of which—as might have been anticipated—are new to science; but many of them are of great interest, as they are examples of birds in immature plumages or changes of dress which are not often obtained. Mr. Figgins's excellent field-notes are indicated by his initials.

35. *Chubb's Indexes to Hume's 'Stray Feathers.'*

[Stray Feathers, a Journal of Ornithology for India and its Dependencies. Edited by Allan Hume, C.B. Index to Vol. XI., and Systematic and General Index to Vols. I.–XI. By Charles Chubb. London, 1899: Quaritch.]

Mr. Charles Chubb, who is favourably known to all frequenters of the Bird-room of the British Museum, has done well in preparing the two works mentioned above. The first is an index to the eleventh and last volume of 'Stray Feathers' (unfortunately incomplete); the second is a systematic and alphabetical index to the whole series of eleven volumes of the same work. Mr. Chubb could hardly have spent his "leisure time during the past two years" in a manner more useful to ornithologists, who, we are sure, will be grateful to him for the facilities thus afforded for reference to this important work.

'Stray Feathers' is a mine of wealth to those who seek information on Indian birds, though somewhat difficult of access, and Mr. Chubb has now provided a much-needed spade for digging into what was hard to penetrate without it. Dr. Bowdler Sharpe has helped Mr. Chubb with encouragement and advice, and Mr. Quaritch has aided by publishing the results of his labours.

36. *Cory on the Birds of Eastern North America.*

[The Birds of Eastern North America. Pt. I. Water-birds; Pt. II. Land-birds; Key to the Families and Species. By Charles B. Cory. Field Columbian Museum, Chicago: 1899, 8vo.]

This excellent compendium is on the lines of the author's useful booklets, 'How to know the Shore-birds' and 'How to know the Ducks, Swans, and Geese of North America,' noticed in 'The Ibis,' 1898, p. 300. It is profusely illustrated, the descriptions are remarkably concise, and a more valuable hand-book can scarcely be imagined. We are confronted by our old enemy "Podicipidæ" for Podicipedidæ; but then, according to the A. O. U. creed (canon xxxi.), a name employed by some one "with little Latin and less Greek" must not be rejected, nor—as it would seem—amended. Mr. Cory naturally follows the Code.

37. *Dubois' 'Synopsis Avium.'*

[Synopsis Avium. Nouveau Manuel d'Ornithologie par Alphonse Dubois. Fasc. I., Psittaci, Scansores, Pici. Bruxelles, 1899. 8vo, pp. 80.]

The completion of the 'Catalogue of Birds in the British Museum' has rendered the compilation of new Synopses

Avium a comparatively easy task, and we are not surprised that ornithologists on the Continent should be inclined to avail themselves of the assistance thus rendered to them by British energy, nor do we regret it; for every enterprise that tends to render the study of our branch of science more easy and popular will always, if well carried out, receive the support of this Journal and of the Union to which it belongs.

M. Dubois commences his work with the Psittaci, Scansores, and Pici, and his task is considerably lightened, as nearly all the families of these groups have been monographed, and the species are tolerably well known. Besides the name adopted, only the principal synonyms and the *patriæ* are given. The "subspecies" are designated "varieties": a practice which is not commendable, as the latter term would be better restricted to individual variations of form and colour. Altogether 1105 species of 180 genera are comprised in the first Fasciculus. This contains 80 pp. and a coloured plate of *Tiga borneonensis*, which seems scarcely different from *T. javanensis*. The work will be completed in "about 7 numbers," to appear every quarter.

38. *Evans and Buckley on the Shetland Islands.*

[A Vertebrate Fauna of the Shetland Islands. By Arthur H. Evans and T. E. Buckley. 8vo. Edinburgh, 1899.]

This is the first of the series in which the name of Mr. Harvie-Brown does not appear on the title-page; but the influence of our hard-working colleague is plainly seen in the accounts of many outlying islets and skerries which he visited in his yacht, as well as in particulars respecting the southern portion of Mainland, a district almost unknown to the ornithologist. To his companion, Mr. Norrie, the work is indebted for the numerous photographs which embellish its pages, and the frontispiece—a nesting-place of the Kittiwake—by Mr. Oswin Lee, is an admirable example of mezzotint. Since 1887 Mr. Evans has been systematically exploring the islands of the group, aided by Mr. Buckley, Mr. Godfrey, and others; and for thoroughly careful work this volume is in every respect equal to its predecessors. The earlier labours of Saxby, the Edmondston family, Garriock, and others, can never be forgotten when the Shetland Islands are mentioned, and this excellent treatise forms their fitting complement. The birds occupy pp. 69–215, the bulk of the work; the descriptive portion forms an admirable guide-book; and it is almost needless to say that there is a coloured map, as well as a full index.

39. *Finn on a supposed new Indian Drongo.*

[On a new Species of Bhimraj (*Dissemurus*), with some Observations on the so-called family Dicruridæ. By F. Finn, B.A., F.Z.S. J. A. S. B. lxviii. pt. ii. p. 119.]

Mr. Finn continues his curious discoveries in the Indian avifauna. A new Bhimraj (*Dissemurus alcocki*) is founded upon a bird obtained alive from the Gorakhpur district, and now in the Calcutta Museum. It has white edgings to the wings and a whitish belly. Other similar specimens have been received from the same locality.

40. *Finsch on the Species of* Theristicus.

[Ueber die Arten der Gattung *Theristicus* Wagl. Von Dr. O. Finsch. Notes Leyden Mus. xxi. p. 23.]

Dr. Sharpe has united *Theristicus branickii* Berl. & Stolz. to *T. melanopis,* as its younger form. Dr. Finsch maintains that *T. branickii* is an unquestionably valid species, of which the Leyden Museum has two adult specimens (♂ et ♀) from Peru (*Whitely*); and he adds to the list of the genus a fourth species, *T. colombianus,* based on an example in the same Museum acquired, in 1867, from "Columbia." Notes on and descriptions of all four species are added.

41. *Finsch on the Genus* Gracula.

[Das Genus *Gracula* Linn., und seine Arten nebst Beschreibung einer neuen Art. Von Dr. O. Finsch. Notes Leyden Mus. xxi. p. 1.]

We are pleased to note that Dr. Finsch follows Count Salvadori in reviving the good old-fashioned Linnean genus

Gracula, which ought never to have been superseded by *Mainatus* or *Eulabes*. He now reviews the species and recognizes 14 of them; describing as new *G. batuensis*, from the Batu Islands, on the north-west coast of Sumatra.

42. *Finsch's Review of his Forty Years' Work.*

O. Finsch: Systematische Uebersicht der Ergebnisse seiner Reisen und schriftstellerischen Thätigkeit (1859 1899). 8vo. Berlin, 1899.]

The excellent work in zoology and anthropology accomplished by our old correspondent, Dr. Finsch, during the past 40 years, well deserves this permanent record, which is, at the same time, very useful to students for purposes of reference. In "Birds," as we all know, Dr. Finsch has been specially active, and his papers, which form a goodly list, show his researches in Greenland, Europe, Africa, Asia, Indo-Malaysia, New Guinea, the Pacific Islands, and New Zealand. According to the alphabetical list given, the new species described by Dr. Finsch are 158 in number. We cordially wish him a long period of fresh activity in the Leyden Museum.

43. *Gosse on the Birds of Aconcagua.*

[Notes on the Natural History of the Aconcagua Valleys. By Philip Gosse. Reprinted from Mr. E. A. FitzGerald's 'The Highest Andes,' 1899. 8vo. London, 1899.]

Mr. Gosse sends us a separate copy of the above-named Notes. The portion relating to "Birds" occupies 11 pages of the Appendix, and contains an account of two collections: the one made in the valleys round the base of the great mountain, and the other during Mr. Gosse's two months' residence at Lujan, in the province of Mendoza. In the first list 26 species are mentioned, and field-notes are given relating to each of them; all being well-known Chilian species, and such as would be expected to occur in the Mendozan Andes. *Atticora cyanoleuca* was observed up to 11,000 feet; *Oreotrochilus leucopleurus* was found breeding in the Inca Valley in December and January, and another Humming-bird (probably *Patagona gigas*) was noticed but not obtained. *Thinocorys orbignyanus* was met with at 18,000 feet. Only one Duck, *Anas cristata*, is mentioned.

The second list enumerates 11 species obtained at Lujan, 15 miles south of Mendoza, and contains nothing remarkable. "*Lamprotes bonariensis*" is, we suspect, an error for "*Tanagra darwini*," for the former is a Brazilian species which would not be likely to occur in Western Argentina.

44. *Hall on Australian Birds.*

[A Key to the Birds of Australia and Tasmania, with their Geographical Distribution in Australia. By Robert Hall. 8vo. Melbourne and London, 1899.]

This appears to be a useful manual of the 767 known birds of Australia, with special reference to their distribution. The nomenclature and arrangement of the British Museum Catalogue are adopted. The continent of Australia is divided into the "Eyrean," "Torresian," and "Bassian" subregions, as proposed by Prof. Spencer; and these subregions are again separated into nine "areas," which are designated by numbers and are so indicated for the localities of the species. It would have been better, we think, to have added references to all the species *not* included in the B. M. Catalogue (e. g. *Stipiturus ruficeps*), to avoid any difficulty in finding them.

45. *Hall on the Changes of Plumage in* Malurus.

[Notes on *Malurus gouldii* and *Malurus cyaneus*, with special reference to Changes in Plumage. By Robert Hall. Proc. R. Soc. Victoria, new ser. xii. (1899) p. 59.]

The author discusses the vexed question of the changes of plumage in this genus at some length, and considers that the annual double moult of the male is now an established fact.

46. *Hartert on Birds from the Gold-Coast Colony.*

[List of a Collection of Birds made at Gambaga, in the Gold Coast Hinterland, by Capt. W. Giffard. Nov. Zool. vi. p. 403 (1899).]

There is still much to be done in working out the exact localities and ranges of the birds of West Africa, and we are glad to see Mr. Hartert engaged in cataloguing local collections from this quarter. Capt. Giffard's scene of operations was mostly Gambaga, in the interior of the Gold-Coast Colony (10° 50′ N. lat. and about 1° W. long.), though a few of his specimens were obtained elsewhere. The collection comprises examples of 150 species. The three novelties have been already described in the Bull. B. O. C. (x. p. v; Ibis, 1900, pp. 181–2), but Mr. Hartert introduces many valuable notes and comments in his present paper, especially as regards distribution.

47. *Hartert on Birds from Cape York.*

[On some Birds from Cape York, North Queensland. By Ernst Hartert. Nov. Zool. vi. p. 423, 1899.]

We have here notes on specimens "from a large and fine collection" made by Mr. Albert S. Meeks' collectors at Cape York in June and July 1898. Mr. Hartert writes on 25 species; among which he now describes *Artamus leucorhynchus parvirostris* and *Zosterops westernensis vegeta* as new subspecies. *Poëphila nigrotecta* from the same collection has been already characterized (Bull. B. O. C. viii. p. lix).

48. *Hartert on* Myzomela rubro-cucullata.

[On *Myzomela rubro-cucullata* Tristr. By Ernst Hartert. Nov. Zool vi. p. 428 (1899).]

Mr. Hartert suspects that *Myzomela rubro-cucullata* Tristr. (Ibis, 1889, p. 228) is not really from St. Aignan (as was supposed by the describer), but more probably from one of the Solomon group. He has examined the type now in the Liverpool Museum.

49. *Japp on Cuckoos.*

[Our Common Cuckoo and other Cuckoos and Parasitical Birds; an attempt to reach a True Theory of them by comparative Study of Habit and Function: with a thorough Criticism and Exposure of Darwin's

Views and Romanes's Views and those of their Followers. By Alexander H. Japp, LL.D., F.R.S.E. 8vo. London, 1899.]

The title sufficiently explains the aim of this preposterous work, in which we are assured, with irritating iteration, that Darwin "was not a thinker." Gould, too, "was no thinker, and was mostly either very weak or very far wrong when he attempted anything outside his proper province." Inaccurate and garbled "quotations" abound, and the 'Zoologist' for 1883 will be searched in vain for anything like the assertions ascribed to Mr. Bidwell on p. 51; while absolute misstatements are sadly frequent. References to p. 10 and p. 31 would lead the reader to suppose that the male Cuckoo "deposits"—if he does not actually *lay*—"his eggs in other birds' nests." The index is worthy of the rest of the book, and to say more about the whole production would be a waste of our space.

50. *Le Souëf on Birds from North Australia.*

[Ornithological Notes from the Northern Territory. A List of the Birds, with the Nests and Eggs, obtained by Mr. E. Olive on the Katherine River. By D. Le Souëf, C.M.Z.S. Victorian Nat. xvi. no. 4.]

Mr. Le Souëf writes useful remarks on the more important birds obtained by Mr. E. Olive while collecting on the Katherine River, Northern Territory, from October 1898 to January 1899. The collector's field-notes are appended, and the nests and eggs are described.

51. *Martorelli on the Pattern of the Plumage of Birds.*

[Le Forme e le Simmetrie delle Macchie nel Piumaggio. Memoria Ornitologica del Prof. Giacinto Martorelli. Mem. Soc. Ital. Sci. Nat. vi. fasc. 2, 1898.]

Only an ornithologist who is conversant with all the niceties of the Italian language can do justice to this recondite treatise; and in the hope of obtaining the assistance of one thus qualified we have delayed our notice for a twelvemonth, but in vain. The author's conclusions are 22 in number; the first being that the spots or markings on the feathers have an organic cause which regulates their shape and their successive alteration. There is a fine coloured frontispiece of *Pernis celebensis* and *Spizaëtus lanceolatus*, and many excellent woodcuts embellish the text.

52. *Meinertzhagen and Hornby on Lapland.*

[Bird Life in an Arctic Spring. The Diaries of Dan Meinertzhagen and R. P. Hornby. 8vo. London, 1899.]

Parental affection has willed that the diary of Dan Meinertzhagen should be printed unrevised, just as it remained when death carried off one of our most promising young naturalists, and no one who knew the accomplished draughtsman and attractive enthusiast can fail to sympathize with the desire. Under the circumstances, the work must not be seriously criticised; but we can cordially recommend it to all lovers of nature, as showing the foundation upon which, if he had been spared, a young genius would have raised an enduring edifice. Some of the many illustrations are admirable, and nearly equal to those by Wolf at a similar age.

53. *Munich Ornithological Union, Annual Reports,* 1897–8.

[Jahresbericht des Ornithologischen Vereins München, für 1897 und 1898. Herausgegeben vom derzeitigen Vorsitzenden Dr. med. C. Parrot. 8vo. München, 1899.]

Munich has always seemed to us rather "out in the cold" as regards Ornithology, for, except Spix's types, mostly in a wretched and neglected condition, there was little, that we knew of, to attract the bird-lover to the capital of Bavaria. This has now, however, an Ornithological Union, and two years' of its "Proceedings" are reported in the present volume, which contains several papers of considerable interest, mostly relating to the birds of the country. Dr. C. Parrot appears to have been the worthy founder of the institution, and is the editor of its journal.

54. *North's Ornithological Notes.*

[Ornithological Notes. By Alfred J. North, C.M.Z.S. VIII. Description of a new Species of Honey-eater from North Queensland. IX. Description of the Nest and Eggs of *Micrœca pallida* De Vis. Records Australian Mus. iii. 1899, pp. 106, 107.]

Our ever active correspondent describes *Ptilotis leilavalensis* as a new species from Northern Queensland, and the previously unknown nest and eggs of *Micrœca pallida* from the same country.

55. *Oberholser on Birds from the Cameroons.*

[Notes on Birds from the Cameroons District, West Africa. By Harr C. Oberholser. Proc. U.S. Nat. Mus. xxii. p. 11.]

The author writes on a collection of 59 specimens of birds, nearly all from Ebfulla, about a hundred miles inland in the Cameroons District of West Africa, and refers them to 32 species, none of which are new, though several are of interest. A new genus "*Eurillas*" is proposed for *Andropadus virens* Cassin, of the family Pycnonotidæ. Mr. Oberholser is strongly of opinion that *Gymnobucco peli* is specifically distinct from *G. calvus,* but nevertheless he calls his specimens from the Cameroons which agree in characters with *G. peli* by the latter name.

56. *Oberholser on Birds from Liberia.*

[A List of Birds collected by Mr. R. P. Currie in Liberia. By Harry C. Oberholser. Proc. U.S. Nat. Mus. xxii. p. 25.]

This collection, which was made at Mount Coffee on the St. Paul river, contains 57 birds, which are referred to 39 species and subspecies, 4 of them being described as new—*Dendromus caroli arizelus, Anthreptes idius, Dicrurus modestus atactus*, and *Fraseria prosphora.* Two new generic terms are also proposed—*Horizocerus* for *Toccus hartlaubi* Gould, and *Stelgidillas* (lege *Stelgidellas* ?) for *Andropadus gracilirostris* Strickl. We can see no object in casually making new genera for slightly aberrant species, which are better left as they were, unless the whole group to which they belong is completely revised. We also disapprove of the author's practice of beginning his lists at the "wrong end," which is very confusing.

57. *Osgood on* Chamæa fasciata.

[*Chamæa fasciata* and its Subspecies. By Wilfred H. Osgood. Proc. Biol. Soc. Washington, xiii. p. 41.]

The Wren-Tits (*Chamæa*) of California have been divided into two subspecies, *C. fasciata typica* and *C. f. henshawi.* Mr. Osgood has discovered that the latter, from Southern California, is really the typical form, and he, therefore, proposes to rename the dark northern form *C. f. phæa.*

58. *Palmer on the Birds of the Pribilof Islands.*

[The Fur-Seals and Fur-Seal Islands of the North Pacific Ocean. By David Starr Jordan. Part 3, Chap. xvii. The Avifauna, by William Palmer. 4to. Washington, 1899.]

The author of this interesting report to the Fur-Seal Commission of 1896–97 was on the Pribilof Islands from May 27 to August 11, and seems to have added about 20 species to the list of birds observed there by Mr. H. W. Elliott and others. Mr. Palmer distinguishes the Turnstone of the area north of Hudson Bay from the Mackenzie river eastward and from the Atlantic watershed to the Falklands as *Arenaria morinella*, and devotes several pages to the maintenance of his contention. There are some interesting illustrations and diagrams of the development of feathers. Mr. Palmer holds some novel and decidedly bold opinions on the subject of the migration of Pribilof birds.

59. *Pearson on the Islands of Barents Sea.*

['Beyond Petsora Eastward': Two Summer Voyages to Novaya Zemlya and the Islands of Barents Sea. By Henry J. Pearson. With Appendices on the Botany and Geology. By Col. H. W. Feilden. 4to. London, 1899.]

The interesting expeditions made by Mr. Pearson and his companions to the above-mentioned district were described in this Journal for 1896, pp. 199–225, and 1898, pp 185–208, though chiefly, of course, as regards the ornithological results, for our available space is limited. Plenty of material therefore remained to be expanded into the present agreeable narrative of life and exploration, especially as regards the almost unvisited islands of Dolgoi and Waigatch, to the north and east of the mouth of the Petchora. Kolguev Island, moreover, had been by no means exhausted by Mr. Trevor-Battye; and the south-west of Gooseland—the portion of Novaya Zemlya to the south of the Matyushin Strait—well repaid investigation, while the east side of the northern island, Lütkeland, was also visited. The book is profusely illustrated from photographs, many of them very beautiful; there are several maps and plans; the frontispiece gives coloured figures of twelve eggs of the Little Stint; and the index is excellent. It is a pity that shoal water precluded a landing on the Yalmal Peninsula; but, even as it stands, the book fills in a very important gap in our knowledge of Arctic geography as well as natural history. The appendices by Col. Feilden have received very high praise from competent authorities, and the title of the work, which is from 'Paradise Lost,' book x., was suggested by him.

60. *Peel on the Birds of Somaliland.*

[Somaliland: being an Account of Two Expeditions into the Far Interior, together with a complete List of every Animal and Bird known to inhabit that Country, and a List of the Reptiles collected by the Author. By C. A. V. Peel, F.Z.S. London, 1900.]

Mr. Peel's octavo volume, of 345 pages, contains a narrative of two excursions made into the far interior of Somaliland in 1895 and 1897 (no exact dates specified), and is chiefly occupied with accounts of his adventures in the pursuit of the larger game. In an Appendix is given a list of the mammals and birds of Somaliland. The list of birds (in the preparation of which the author acknowledges the assistance of Dr. Bowdler Sharpe and Mr. Hartert) contains the names of about 295 species, with localities and a few field-notes.

61. *Radde's 'Museum Caucasicum.'*

[Die Sammlungen des Kaukasischen Museums, im Vereine mit Special-Gelehrten bearbeitet und herausgegeben von Dr. Gustav Radde. Band I. Zoologie, von Dr. Gustav Radde. Tiflis, 1899.]

This is the first of a series of six quarto volumes, which the accomplished Director of the Caucasian Museum at Tiflis proposes to devote to the illustration and explanation of the rich collections under his charge. The present volume —printed in Russian with a German context—contains an account of the zoological specimens in the Museum, which are, of course, mostly from the Caucasus and its environs, though many are from other localities.

Some 150 pages are devoted to the birds, of which there are stated to be 4206 specimens in the Museum, besides eggs and nests. These are referred to 498 species. The sexes and exact localities are given in a general list; after which follows a series of short notes on various species, chiefly those from different parts of the Caucasus. Some of these are in correction or augmentation of the remarks in the author's 'Ornis Caucasica,' and deserve careful study, for Dr. Radde is known as a 'lumper' rather than a 'splitter' of species, and it is well to hear both sides of the question:—see, for instance, his remarks on the modifications of *Cinclus aquaticus, Ruticilla mesoleuca, Garrulus glandarius,* and other species, in the Caucasus.

62. *Rothschild and Beddard on the Genus* Apteryx.

[The Genus *Apteryx*. By the Hon. Walter Rothschild, Ph.D. With a Chapter on the Anatomy of the Kiwis, by Frank Beddard. Nov. Zool. vi. p. 361.]

In this important memoir Mr. Rothschild has endeavoured to give us the results of his great experience in the examination of specimens of the genus *Apteryx*, both alive and dead, especially of those belonging to the unrivalled collection of these birds which he has succeeded in bringing together. Though we may regret that some of these results are not of a rather more positive character, there can be no question that Mr. Rothschild's account of the species which he is able to recognize, coupled with Mr. Beddard's notes on their osteology and anatomy, have considerably advanced our knowledge of this somewhat obscure group. Mr. Rothschild now recognizes only five forms of *Apteryx*, two of which he classes as subspecies. These are:—

1. *A. australis*, of Stewart Island and the southern parts of South Island, to which he unites *A. lawryi*.

2. *A. australis mantelli*, of North Island, to which *A. bulleri* Sharpe is referred.

3. *A. haasti*, from the mountain-range on the west coast of South Island.

4. *A. oweni*, from South Island.

5. *A. oweni occidentalis*, from South Island and the south-western portions of North Island.

Mr. Beddard has made the great discovery that, so far from having no oil-gland (as stated by Garrod, Fürbringer, and Gadow), *Apteryx* has this organ particularly large and well developed. It is an "enormous gland" lying "just above the extremity of the vertebral column." This peculiar structure is well figured by Mr. Beddard, but we regret that he has not given us a rather more complete description of the plate. Mr. Beddard also contributes important information on the osteology and anatomy of these wonderful birds.

63. *Salvadori and Festa on the Birds of Ecuador.*

[Viaggio del Dr. Enrico Festa nell' Ecuador. Uccelli. Parte 1. Passeres oscines. Parte 2. Passeres clamatores. Del T. Salvadori ed E. Festa. Boll. Mus. Zool. Università di Torino, xv. Nos. 357 and 362.]

In these two memoirs we have a full account of the Passeres represented in the great collection of birds made by Dr. E. Festa in Ecuador, which contains altogether 2892 specimens, referable to 610 species. Part 1 treats of the Oscines, of which there are 165 representatives. Of these, five — *Turdus conradi*, *Thryophilus leucopogon*, *Certhiola intermedia*, *Spermophila æquatorialis*, and *Cyanolyca angelæ* —are characterized as new. Ten others are stated to be new to the avifauna of Ecuador. There are also such rarities represented as *Entomodestes coracinus*, *Oreomanes fraseri*, and *Oreothraupis arremonops*.

In the second memoir, in which the Passeres Clamatores are treated, six species out of 180 represented in the collection are described as new. These are *Elainia cinereifrons*, *Pseudomyiobius* (gen. nov.) *annectens*, *Synallaxis subspeciosa*, *Sclerurus salvini*, *Dendrocincla macrorhyncha*, and *Acropternis infuscata*. Seven others are stated to be new to Ecuador, and *Grallaria gigantea* is of great interest as the third known example of this rare species.

64. *Seebohm's 'Monograph of the Thrushes.'*

[A Monograph of the Turdidæ, or Family of Thrushes. By the late Henry Seebohm. Edited and completed (after the Author's death) by R. Bowdler Sharpe, LL.D., F.L.S., &c. Part vii. Imperial 4to. London: Henry Sotheran & Co., 1899.]

The seventh part of this work, issued in December last, concludes the true *Turdi* (according to Seebohm's arrangement), and commences the group of *Merulæ*. The following species are figured:—*Turdus cabanisi*, *T. milanjensis*, *T. libonyanus*, *T. pelios*, *T. saturatus*, *T. stormsi*, *T. cryptopyrrhus*, *Merula merula*, *M. mandarina*, *M. boulboul*, *M. albicincta*, and *M. torquata* (two plates). A figure of *Merula alpestris*, the Alpine form of the Ring-Ouzel, is deferred until the next number.

65. *Stark's Birds of South Africa.*

[The Fauna of South Africa. Edited by W. L. Sclater. The Birds of South Africa. By Arthur C. Stark, M.B. Vol. I. London: Porter. 1900.]

We have now before us the first volume of the work of our much-lamented friend, the late Dr. Stark, on the Birds of South Africa, which forms the first of Mr. W. L. Sclater's proposed series of treatises on the fauna of that country. Dr. Stark's introduction is dated at Durban on October 10th, 1899. Thence he proceeded to Ladysmith, to attend on the sick and wounded, and there he met his death on November 18th, as already described in our number for January last (*supra*, p. 220).

The present volume deals with the first half of the birds of the Order Passeres found within the limits assigned to the present work, *i. e.* Africa south of the Zambesi and Cunéné rivers. The author, as he tells us, has endeavoured to arrange the subject-matter in such a manner that a tyro in ornithology may be enabled to identify a specimen with a certain amount of ease and accuracy. The plan and arrangement adopted are based upon those followed by Mr. Eugene Oates in the volumes on "Birds" in the 'Fauna of British India,' viz., a full description, illustrated where necessary, of the characters which define the different genera, followed by a key to the species included in each.

The majority of the descriptions have been taken from specimens in the South African Museum at Cape Town, where there is a good mounted series of South African birds in the public gallery, besides a large named collection in cabinets. The remainder are mostly from examples in the Albany Museum at Grahamstown, the Durban Museum in Natal, and from the author's own collection. The present work is rendered of special value by the author's own field-notes, resulting from his long personal experiences in various parts of the Cape Colony, Natal, and the Transvaal from 1892 to 1898, for in these will be found concise accounts of the general habits, food, song, and nidification of the various species. The perusal of some of these excellent notes leads us to regret more than ever that Stark did not live to complete his work. We fear it will be a very difficult task to arrange the MSS. and journals left behind him so as to finish the work in the same fashion.

So far as we know no previous writer has recorded so clearly the extraordinary breeding-habits of some of the Weaver-birds, which alone among the Passeres seem to be decidedly polygamous. For example, we select Stark's account of the nesting-habits of the Great-tailed Widow-bird (*Coliopasser procne*), which somewhat resemble the proceedings of the Fur-Seals (*Otaria*) among Mammals:—

"As soon as the males begin to assume their long tails in spring the flocks break up, and each male, accompanied by from ten to fifteen females, repairs to some suitable breeding-place. As soon as they have fixed on a locality, the females separate, and each one proceeds to construct a nest in a thick tuft of grass. The cock meanwhile keeps a look-out from some point of vantage, and spends most of his time in driving off other cocks who attempt to trespass on the territory occupied by his harem. He takes no part in the construction of any of the nests. Should he see a man or beast of prey approaching he flies round with a warning cry, upon which the hens leave their nests, creep under the grass for a short distance, then rise and fly off until danger is past."

Similar habits are related of *Urobrachya axillaris, Coliopasser albo-notatus*, and other species of this group.

We observe that *Otocorys berlepschi* is acknowledged as South African in the present volume, but we must confess to grave doubts whether the habitat assigned to this species, "Caffraria," can be correct. The nearest species to it geographically is *O. atlas* of Morocco (Bull. B. O. C. vii. p. xlvii), and it is a "far cry" from Morocco to Caffraria !

Many good illustrations will be found in the text of this volume ; those of the male *Promerops* "showing off" and of the nest of the Cape Penduline Tit (*Ægithalus capensis*) are remarkable. It is to be hoped that the remaining volumes of the 'Birds of South Africa' will be completed in a similar style, but to find a second Stark will be no easy matter.

66. *Stone on a new* Coccyzus.

[A new Species of *Coccyzus* from St. Andrews. By Witmer Stone. Proc. Ac. Nat. Sci. Philad. 1899, p. 301.]

St. Andrews Island, in the Caribbean Sea, was already known (see 'Auk,' 1887, p. 177) to possess five peculiar species, out of the 19 of which specimens were obtained by one of Mr. Cory's collectors. Mr. Stone now adds a sixth, *Coccyzus abbotti*, from a small collection made in the island in May 1887 by Dr. W. L. Abbott.

67. *Stone on Birds from Colombia.*

[On a Collection of Birds from the Vicinity of Bogotá, with a Review of the South-American Species of *Speotyto* and *Troglodytes*. By Witmer Stone. Proc. Ac. Nat. Sci. Philad. 1899, p. 302.]

The Academy of Natural Sciences has come into possession of a valuable collection of birds, made near Bogotá and on the surrounding ranges by the late Dr. J. W. Detwiller, with localities attached to the specimens. Mr. Stone now catalogues them, and reviews the S. American species of *Speotyto* and *Troglodytes.* Of the former genus he separates, as a new subspecies, *S. cunicularia tolimæ*; and of the latter he describes, as a new species, *Troglodytes columbæ*.

68. *Witherby on the Birds of South-western Spain.*

[Two Months on the Guadalquiver. By Harry F. Witherby, F.Z.S., M.B.O.U. Reprinted from 'Knowledge,' 1899.]

This is a pleasantly written description of a visit to ground which is already familiar to readers of this Journal; in fact there is now a sort of dragoman who provides boats, lodging, and all accessories for "trippers" to a district which was once "wild" Spain. This was an agreeable "outing"; but we are glad to find that Mr. Witherby has more serious ambitions, and that he has started for Khartoum and the country beyond on the White Nile, accompanied by two experienced collectors.

XXI.—*Letters, Extracts, Notices, &c.*

We have received the following letters, addressed "to the Editors of 'The Ibis'":—

Sirs,—The January number of 'The Ibis' for the present year contains figures of two birds, recently described by Mr. Weld-Blundell and Lord Lovat in the Bull. B. O. C. vol. x. pp. xix, xx. I think I can easily show that neither of these birds can stand as a new species.

The first bird figured is *Oriolus meneliki* W.-B. & L., Bull. B. O. C. vol. x. p. xix (1899); Ogilvie Grant, Ibis, 1900, p. 122, pl. ii.

Mr. Ogilvie Grant says:—"This fine species closely resembles *O. monachus* Gm., but may at once be distinguished by the colour of the bill, which is *uniform deep black*. The greater *secondary wing-coverts* and *some of the lesser wing-coverts* are, moreover, clearly *edged with golden yellow*, whereas in *O. monachus* they are always uniform, and *the subterminal markings on the third, fourth, and fifth tail-feathers extend over both webs* and *are of a deep black*."

Among the birds collected by Antinori in Shoa there were 21 specimens which I have attributed to *Oriolus monachus* (Ann. Mus. Civ. Gen. (2) i. p. 203). Two of them (*s*, *t*) are exactly like the figure of *O. meneliki*, having the bill extremely black; a third (*r*) has the bill partly black and partly mahogany-red. The first two have been identified by me as young birds: in fact they have the black feathers of the throat slightly edged with pale yellowish; also the third specimen (*r*) has traces of a yellowish tinge on the chin, and this I take to be immature. If I am not mistaken, some traces of whitish edging to the feathers of the chin appear also in the figure of the type specimen of *O. meneliki*. It is important to notice that on the labels written by Antinori, the bills of the two young birds and of the immature one are marked as reddish, so that the change of colour of the bill from reddish to black evidently depends on the drying of the skin.

As to the other characters assigned to *O. meneliki*, the yellow edge of the greater secondary wing-coverts is also a sign of immaturity; and as to the black subterminal markings on the third, fourth, and fifth tail-feathers extending over both webs and forming a subterminal black band, I have noticed in our series that this band is almost obsolete in the very young birds, and becomes more prominent as the birds become older. From all this I have not the least doubt that the bird described and figured in 'The Ibis' is an immature specimen of *O. monachus*. It appears, also, that in the allied species the bill while drying becomes entirely black;

at least a young bird of *Oriolus larvatus* in the Turin Museum has the bill uniformly black.

Moreover Finsch and Hartlaub, in their work 'Die Vögel Ost-Afrikas,' describe the bill of the young *O. larvatus* and *O. monachus* (pp. 293, 294) as *black* (in the dry skin).

As to *Sporæginthus margaritæ* Weld-Blundell and Lovat, Bull. B. O. C. vol. x. p. xx (1899); Ogilvie Grant, Ibis, 1900, p. 130, pl. iii. fig. 1, it agrees very well with the types of my *Estrilda ochrogaster* from Abyssinia (Boll. Mus. Tor. no. 287, p. 4, 1897). On comparing my birds with the figure, the only difference seems to be in the greater brightness of the ochreous colour of the underparts shown in the plate, which is probably due to the colorist.

Yours &c.,

Turin Zool. Mus.
January 1900.

T. SALVADORI.

SIRS,—Having received a living specimen of the rare Ross's Snow-Goose (*Chen rossi*) of Arctic America (which is quite different from *C. hyperboreus* and its allies), I have compared the descriptions given of the soft parts of this bird in the Catalogue of Birds in the British Museum (xxvi. p. 88), and elsewhere, with my specimen. These descriptions are not accurate, having been, no doubt, taken from dry skins, and I think it may be of interest to state the particulars correctly, which are as follows:—

Bill comparatively a little shorter than in *Chen hyperboreus*. The commissure opens nearly, if perhaps not quite so much, as in *Chen hyperboreus*, and encloses a distinctly black space, as in the larger species; this black is most intense in the upper mandible and in the upper inner part of the lower mandible. In the swollen outside surface of the lower mandible the black ends in vertical lines, with bluish flesh-coloured divisions between them. Between the vertical line formed by the end of the feathering on the sides of the upper mandible and the nostrils extends an olive-greenish-grey space, in which the skin is marked with more or less horizontal thickish wrinkles. On the basal *frontal* part of the upper mandible the olive-green extends about half as far as on the sides, and is smoother. It has the form of a triangle, with its base against the head. In front of this triangle is a light-orange space. The nail of the bill is whitish flesh-colour. The rest of the bill is bright flesh-colour.

It is worthy of note that the above-described olive-greenish-grey base of the bill looks *bluish* grey in the distance, so that, if not examined closely, the bill gives one the impression of being flesh-coloured, with a bluish-grey base. I was therefore much surprised, when I took the bird up in my hands, to find that the base of the bill is olive-greenish-grey.

The iris is dark brown. The legs and feet are flesh-colour.

So far as I can judge from the voice, my bird is a female.

Yours &c.,
F. E. Blaauw.

Gooilust, s'Graveland, North Holland.
February 1900.

Destruction of Grebes in California.—In 'Science' (n. s. xi. p. 188) we are told "where the Grebe-skins come from," and how the birds are killed by thousands among their nests on the lakes of Eastern Oregon and California. Three species—the Western, the Eared, and the Pied-billed Grebes—are found breeding in the shallow waters of Tula Lake, California, and there the hunters are engaged during the breeding-season in shooting the old birds, stripping the skins from their breasts, and shipping them to San Francisco. From 20 to 50 cents are received for each skin, and a hunter makes from 20 to 30 dollars a day. At the present rate of destruction the birds will not last many years.

Ornithophilous Plants.—In the 'American Naturalist' for December last (vol. xxxiii. p. 953), Mr. R. C. McGregor shows that cross-fertilization in a garden shrub of the genus *Salvia* (*S. coccinea*) is effected by the bill of a Humming-bird (*Calypte annæ*), which resorts to its flowers to obtain nectar. Dr. W. Trelease had previously described a similar fertilization of *Salvia splendens* by the Ruby-throated Hummer, *Trochilus colubris.* Mr. McGregor does not state where he made his observations, but *Calypte annæ* is a well-known Californian species.

Dr. Radde's List of Travels and Publications.—With a copy of the 'Museum Caucasicum' (noticed above, p. 392), Dr. Radde kindly sends us a useful summary of his travels and expeditions, as well as a list of his chief publications, 36 in number, besides numerous minor articles. These serve to show at a glance the large amount of good work this veteran zoologist has accomplished since he commenced his investigations on the natural history of Southern Russia in 1854. For the past 35 years the Director of the Caucasian Museum has devoted his entire attention to the country in which he resides, and no fewer than 24 of the publications relate to his numerous expeditions in various parts of the Caucasus and the results consequent thereon.

The Ornithological Outlook at Lake Kivu.—The last number of Danckelman's 'Mittheilungen von Forschungs-Reisenden und Gelehrten aus den Deutschen Schutzgebieten' (vol. xii. p. 235) contains a letter (dated August 12th, 1899) from Dr. R. Kandt announcing that he had established himself in a "Zoological Station" at Bergfrieden, on the south side of Lake Kivu, and had been devoting himself mainly to ornithological work. We fear, therefore, that disappointment may be in store for our friends Messrs. Mathews and Berridge, who are with Mr. Moore's Tanganyika Expedition, and who hoped to pass through an unexplored country between the north end of Lake Tanganyika and Lake Albert Edward. At the same time, whatever birds they may bring from that far-distant spot will be certainly new to us in England. At the date of the last letter (Nov. 7th, 1899) received from the Expedition, the party were still on Lake Tanganyika, where they had arrived on Sept. 20th, and were all in good health, except Mr. Berridge's servant, who had been invalided home. Messrs. Berridge and Mathews were at Sumba, shooting and collecting.

Sir William Garstin's Expedition to the White Nile.—Mr. Stanley S. Flower, Director of the Zoological Gardens at Ghizeh, left Cairo on the 3rd March last on an Expedition sent up the White Nile, by Lord Cromer, to make scientific observations of all sorts, under the leadership of Sir William Garstin. There can be no doubt that this energetic young naturalist, who fully inherits his late father's tastes, will make excellent use of his opportunities. We hope that Mr. Flower will not forget the birds.

Canon Tristram's Golden Wedding.—We are sure that members of the B. O. U. and other friends of ornithology will join us in offering congratulations to Canon and Mrs. Tristram on the occasion of their golden wedding, which was celebrated at Durham on the 5th of February last. So far as we know this is an unique event among the brethren of our Union.

XXII.—*Obituary.*

Mr. Thomas J. Monk, who died at his residence, St. Anne's, Lewes, on 22nd December last, in his 70th year, was a very fine specimen of the sportsman-naturalist. His collection of Sussex-taken birds was celebrated, and contained some remarkably rare wanderers to Great Britain, such as the (first) Black-throated Thrush, the Red-throated Pipit, the (first) Black-headed Bunting and Rustic Bunting, the (only) Little Bunting, the (first) Scarlet Grosbeak, and the (only) White-winged Lark. Several of these were taken alive by bird-catchers in the vicinity of Brighton and transferred to Mr. Monk's large aviary, an establishment in which he took great pride, and where he attained a large amount of success in breeding and crossing. A good shot and rider, a genial companion, with a fund of racing and racy reminiscences, his loss will be very much felt by those who knew him, both in and beyond Sussex.

Ornithology has sustained a severe loss by the death on the 25th December, 1899, of Dr. Elliott Coues, in his fifty-eighth year. Although born at Portsmouth, New Hampshire, on September 9th, 1842, Coues was educated chiefly at Washington, at the Jesuit Seminary now known as Gonzaga College; he graduated at the Columbian University; and served as Assistant-Surgeon in the United States Army from 1864 to 1873, when he received the special appointment of surgeon and naturalist to the United States Northern Boundary Commission, which surveyed the line of the 49th parallel from Lake of the Woods westward to the Rocky Mountains. Of the subsequent six years a portion was passed in Washington, in the preparation of a report on the above Survey; after which he was sent to Arizona as secretary and naturalist of the U.S. Geological and Geographical Survey of the Territories. Incidentally it may now be mentioned that Coues had been elected Professor of Zoology and Comparative Anatomy at Norwich University, Vermont, in 1869, and this training was of great use to him in the preparation of his numerous and important works on zoology; he also held the Chair of Anatomy at the National Medical College in Washington from 1877 to 1886. A perfect glutton for work, Coues never neglected an opportunity offered by his service on the coast or on the frontier; and after making every allowance for "devilling" with regard to the references in such books as 'The Birds of the North-West' and the various instalments of 'The Bibliography of Ornithology,' even then his personal work must have been prodigious. Every successive edition of his 'Key to North-American Birds' marked epochs in ornithological progress, while the mere list of his contributions to science would fill at least a couple of our pages. And, be it remarked, all this work was solid, and not vamped up to swell the total, as is too often the case at the present day. There is no need for enumeration of it in 'The Ibis,' inasmuch as the share which Coues took in the advancement of ornithology is almost as well known in Great Britain as in America, and the regret felt here for the loss of a man of such genius is nearly equal to that which is experienced by his own countrymen.

Edgar Leopold Layard, C.M.G., who died at Budleigh Salterton, Devon, on January 1st, was elected an Honorary Member of the B.O.U. in 1860, and was therefore one of our oldest as well as one of our most valued correspondents. He was born at Florence on July 23rd, 1824, and entered the Civil Service of Ceylon when twenty-two years of age; but after nine years his health gave way, and in 1855 he accepted the invitation of the late Sir George Grey to a post in the Civil Service at Cape Town. There he founded the South-African Museum, and became its first curator; after which he accompanied Sir G. Grey on a special mission to New Zealand, and subsequently became judge and commissioner under the Slave Trade Treaties at the Cape. Transferred to the Consular Service, he was for some years at Pará, at the mouth of the Amazons; next he was sent to Fiji, where he arranged the cession, and was decorated in 1875; he then resumed Consular Service at Noumea, New Caledonia, and ultimately retired after forty-seven years of hard work. Layard was not a producer of many books, and his chief work in this line was 'The Birds of South Africa,' published in 1867, of which a new and revised edition, with the collaboration of Dr. Bowdler Sharpe, made its appearance between 1875–84. It is rather by his many and varied contributions from 1854 almost to the time of his much regretted death that he will be remembered; and a column of closely-printed type in the General Subject-Index to 'The Ibis' testifies to his energy in our special subject. Besides these, his bright and pleasant letters to 'The Field,' under his own name or the pseudonym of 'Bos Caffer,' will be familiar to most of our readers; and his genial personality will be greatly missed and regretted by all who have had the pleasure of his acquaintance.

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XXIII.—*A Fortnight's Egg-collecting in Asia Minor.*

By F. C. Selous.

Early on the morning of May 5th, 1899, I landed at Smyrna, and at once proceeded to the village of Bournabat, some six or seven miles distant, where I was soon discussing a hearty breakfast, beneath the hospitable roof-tree of my old friend Mr. H. O. W——. In the afternoon I walked out to a deep gorge through the hills, about six miles distant from Bournabat, where a pair of Egyptian Vultures was said to breed annually. My guide was an old Greek named Demetrius, who knew something about birds'-nesting, as he had accompanied Dr. Krüper, the curator of the Natural History Museum at Athens, on several of his ornithological trips. He had not, however, imbibed much scientific knowledge, as he seemed to imagine that the object of egg-collecting was merely to get eggs of as many different sizes as possible.

We were unsuccessful in discovering the nesting-site of the Egyptian Vultures, nor did we see any of the birds themselves; but a pair of Lämmergeiers were soaring over the precipitous face of the hill above the gorge, where I have no doubt they had a nest with young ones, for these birds are very early breeders in Asia Minor. On the way home we found two nests of the Woodchat-Shrike (*Lanius pomeranus*), one containing two, and the other seven eggs. We also discovered the nest of a Black-eared Wheatear (*Saxicola albicollis*) in a crevice of an old stone wall, just ready for eggs, and when quite close to Bournabat we were shown the nest of a Crested Lark (*Galerita cristata*) by a shepherd-boy. This nest contained four eggs which were much incubated. It was placed in a field of standing corn, in a depression of the ground, and closely resembled the nest of a Sky-Lark. Among the many birds we saw during our walk, Rollers (*Coracias garrulus*), Bee-eaters (*Merops apiaster*), and Black-headed Buntings (*Emberiza melanocephala*) were the most noticeable from their conspicuous plumage. The males of the last species, in full nuptial dress, were very abundant and very tame, and when sitting on a bush or a small olive-tree, with throat swelled out and in full song, would allow one to approach within a few yards of them without taking alarm. Besides the Woodchat-Shrikes, which were very common, we also saw several Masked Shrikes (*Lanius nubicus*). I could not identify all the Warblers I saw, but I recognized the Orphean Warbler (*Sylvia orphæa*), which is, I think, a common species in this district of Asia Minor.

On the following day, May 6th, I went in Mr. W——'s launch to a place on the coast, a few miles from Smyrna, where salt is made by flooding shallow mud-pans with sea-water and then allowing the water to evaporate by the heat of the sun. Here are some small flat islands, standing in very shallow water, where many birds breed. But it was still too early in the season for eggs. I saw Common, Lesser, and Gull-billed Terns, Pratincoles and Kentish Plovers, and also great numbers of Black-headed Wagtails (*Motacilla melanocephala*); but I found only one nest of the Kentish Plover (*Ægialitis cantiana*), with three eggs a good deal incubated, and also saw a young one in down of the same species just hatched out. These were probably two early nests, and I feel sure that the Terns, Pratincoles, and most of the Kentish Plovers had not yet laid. On our way to the salt-works we saw many Mediterranean Black-headed Gulls (*Larus melanocephalus*) and a few Yellow-legged Herring-Gulls (*L. cachinnans*).

Getting back to Bournabat late the same evening, I proceeded by rail next morning to Aidin, which is distant about one hundred miles south-east from Smyrna. I noticed many birds along the line, numbers of Purple Herons and Little Egrets flying up from a marsh we passed through, while Rollers, Bee-eaters, Little Owls, and Lesser Kestrels were always to be seen perched on the telegraph-wires. I had been told that numbers of Egyptian Vultures nested in the cliffs behind Aidin, and as soon as we had had something to eat Demetrius and I sallied forth on a tour of inspection. We soon saw several Vultures flying round, and in the course of the afternoon discovered two fresh nests, neither of which would have been approachable without the assistance of a light rope-ladder which I had brought with me from England. There were no eggs in the first nest we examined, though it seemed just ready for them; but the second nest, which was in a small cave, within six feet of the top of the cliff, contained two very handsome red-blotched eggs, which were slightly incubated.

On the following morning, May 8th, we took another Egyptian Vulture's nest with two slightly-incubated eggs, and saw three other nests with the birds sitting on them, which we could not reach. We also found the nest of a Black-eared Wheatear (*Saxicola albicollis*) in a hole in the rocks, with six fresh eggs, one of which was broken in getting out the nest. We also saw a great many Rollers fly out of holes in the cliffs, as well as Little Owls (*Athene noctua*) and Lesser Kestrels (*Falco cenchris*), but could find no eggs. Neither the Rollers nor the Lesser Kestrels had yet laid, I think, and the Little Owls that we disturbed were, I suppose, not in their nesting-holes. In the afternoon I spent three hours hunting for small birds' nests, among the gardens and fields in the plain below the town of Aidin; but although I had the assistance of Demetrius and three local Greek boys, we found only one nest, that of an Olivaceous Warbler (*Hypolais pallida*), between us. This nest was built in the fork of a branch of a pomegranate-tree, about 10 feet from the ground; it was very small and neatly made, with a deep cup, and contained four eggs of a very pale pinky white sparsely dotted over with small black spots. In the course of the afternoon we saw a pair of Northern Nightingales (*Daulias philomela*), but I was very much disappointed at the extreme scarcity of small birds of all kinds in this very inviting-looking hunting-ground.

The next morning we again hunted for nests near Aidin for five hours, but were absolutely unsuccessful, as we did not find a single nest. We left by the midday train for Appa, which we reached at 5 P.M. Appa is a small Turkish village situated at the eastern extremity of the Maimun Dagh—Monkey Mountain—and is about 240 miles inland from Smyrna. The character of the country is that of wide, arid, treeless plains, bounded by mountain-ranges. These plains lie at an altitude of about 3000 feet above sea-level. In the evening I found two Crested Larks' nests within a mile of the station building. I put the birds off both nests, one of which contained four and the other five eggs. I also found the nest of a Rock-Sparrow (*Petronia stulta*) in the bank of a railway-cutting close to the station. We caught the bird on the nest, but, though this was just ready for eggs, there were unfortunately none in it. The hole at the end of which this nest had been placed had been bored four feet into the sandy bank. It looked just like a Kingfisher's nesting-hole, but whether it had been made by the Rock-Sparrows themselves I cannot say. It may have been made by a Bee-eater, though against this is the fact that there were no other holes near it. There was a large cavity at the end of the bore-hole, and in this a bulky nest had been built of grass lined with feathers.

I had come to Appa because, while hunting wild goats on the Maimun Dagh in the early spring of 1897, I had noticed a number of Cranes (*Grus communis*) feeding on the marshy ground on the edge of a large salt-lake which extends from the foot of the Monkey Mountain to the opposite range of the Zuut Dagh. This salt-lake, from which the water almost entirely evaporates in hot weather, must be nearly 20 miles in circumference, and is called by the Turks of the neighbourhood "Adji toos Gol." It was early in March when I had seen the Cranes, and although they were then all collected together in a flock, they looked to me as if they were commencing to pair, as they appeared to be restless and excited, and the males were continually giving vent to their loud trumpeting cry. Moreover, the Turkish hunter who was with me had assured me that the Cranes remained in the marshes near the salt-lake all the year round, and said he had seen young ones, though he had never come across a nest.

On May 10th, 1899, the morning after my arrival at Appa, I was up at 5 A.M., and after a light breakfast went down to the railway-line in a trolly which the superintendent of the Aidin Railway—a hospitable German, then resident at Appa—had kindly placed at my disposal. We proceeded to a point close to the edge of a large extent of marsh where we had seen some Cranes stalking about on our way up the line from Aidin on the previous day, and it was here that the men I had with me said that these birds were in the habit of nesting. I was accompained by two men and three youths, and we quartered the ground systematically for four hours, wading backward and forward in line. The vegetation growing in this salt-marsh was not reeds, but a coarse kind of grass, from a foot to two feet in height. The water was usually not more than ankle-deep, and never came up to my knees. The mud underneath, when disturbed, emitted a very strong and disagreeable stench, and the heat of the sun was very great. The thermometer in our railway-carriage had registered 96° in the shade with all the windows open on the previous day. The heat, the flooded plain, and the foul-smelling mud, all combined to call to my mind the remembrance of many a hunt I had had after Leechwe antelopes, in the swamps of South Central Africa in days long gone by.

We found several Cranes' nests; three with two eggs each, two with one egg only, and two more with nothing in them, or rather on them, for they were nearly flat. I don't think the young birds had been hatched out of these nests, as they were quite clean, and there were no signs of egg-shells about; but one of the youths with me found a young Crane only just hatched out, a little yellow brown-brindled downy thing, with already longish legs, neck, and bill. All the eggs I got were considerably incubated, though I managed to blow them without much difficulty with a good large hole. The fact that I found two Cranes' nests each containing only one egg, which must have been sat on for some time, seems to show that these birds do not always lay two eggs The nests were low, flat structures, of beaten-down grass, from 18 inches to two feet in diameter, resting on the grass-covered mud ; but, as they were about three inches in thickness, they were quite dry. These Cranes' nests were difficult to find, as the birds left them and walked slowly away when we were still a long distance from them. On one occasion I saw a Crane fly up from the marsh about 500 yards ahead, and marking the spot as well as I could, I kept my eyes fixed on it, and, wading straight to it, found the nest with two eggs. This, however, was the only bird which flew from its eggs. I also marked a Marsh-Harrier (*Circus æruginosus*) rise from the swamp, and made sure it had a nest, but found nothing. There were likewise a number of Peewits (*Vanellus cristatus*) flying about the drier portions of the marsh, and we saw a number of Ruddy Sheld-ducks (*Casarca rutila*) either sitting just on the edge of the salt-lake or flying over the marsh. These birds nest in holes and crevices among the rocks on the lower slopes of the Maimun Dagh, and are early breeders, as the men with me told me that they had all of them already taken their broods from the mountain to the salt-lake.

After having finished with the Cranes we went up into the Maimun Dagh and took an Egyptian Vulture's nest, with two very handsomely-marked eggs. We also found two nests of the Syrian Rock-Nuthatch (*Sitta syriaca*), each containing seven eggs—one clutch being unfortunately much incubated. These nests were made of mud stuck on to an overhanging rock. They looked like very large House-Martins' nests, prolonged into a narrow passage, at the end of which was the small round hole for entrance or egress. In one case the entrance-passage and hole (only about an inch in diameter) were built against the overhanging rock, but in the other the entrance-passage protruded from the centre of the mud nest. These nests were very strongly and solidly built, and I had to hit them with a stone in order to break them open; they were thickly and warmly lined with soft hair closely felted together, and had all the appearance of having been used for many years, as the clay of the prolonged narrow entrance-passages had assumed a grey, hard, stony appearance.

On the plain between the marsh and the mountain I found another Crested Lark's nest with five eggs, and a Turkish shepherd-boy showed me a Bunting's nest, containing five eggs, in a cornfield, just outside a village. This nest was built right on the ground beside a stone, and the eggs much resembled those of the Yellow-hammer. However, the Yellow-hammer does not breed in this, or I believe in any, part of Asia Minor, and I have no doubt that it was a nest of Cretzschmar's Bunting (*Emberiza cæsia*), a species which is not uncommon in that country. While returning to Appa along the railway-line we dug out four Rock-Sparrows' nests. Three of these were just ready for eggs, and the fourth contained young birds just hatched out. These nests were all made in holes that had been bored, to a depth of about four feet, into the cuttings and embankments along the railway-line. Late in the evening, while strolling about on the plain quite close to the station-buildings, I almost trod on a Short-toed Lark (*Calandrella brachydactyla*) sitting on three eggs, which were so much incubated that I was able to blow them only with great difficulty.

Early the next morning I found another Short-toed Lark's nest, also with three eggs, somewhat incubated. In a village about a mile from the railway-station I found two colonies of Spanish Sparrows (*Passer salicicola*) busy building all round the sides of two Storks' nests. These latter were immense structures, the accumulation of many years, placed in trees some ten feet above the ground, and the Spanish Sparrows' nests were built all round them, and so close together that they filled almost every interstice in the great piles of sticks. The nests were very much like those of the Common Sparrow (*Passer domesticus*), loose structures of grass, lined with feathers, and with the entrance-hole on one side. I suppose there were over fifty Sparrows' nests built round each Stork's nest. Most of the former were still unfinished, and though some had already received their feather lining, none had eggs in them. Many Lesser Kestrels flew out from under the eaves of the village houses, but we could find no eggs, and I do not think these birds had yet laid. In the afternoon I took the nest of a Calandra Lark (*Melanocorypha calandra*) with four eggs, and late in the evening a Turk showed me the nest, on a stony hillside, of a Chukar Partridge (*Caccabis chukar*), containing five fresh eggs.

The next day, May 12th, I left Appa at 7.30 A.M., and, passing Aidin at midday, arrived at Balachik at 1 o'clock. I was now on my way to a large lake and swamp near the mouth of the Meander river, where my friends in Bournabat had told me that various kinds of Herons and numerous species of water-fowl, including wild Swans, were accustomed to breed. Mr. E. W—— had given me a letter to a Greek, living at a village called Sakizbounou, who said he would be able to get men to help me to explore the marsh. I had to go by rail to a place called Sokia, where is a liquorice factory belonging to an English company, and from there ride or drive to the lake. On reaching Balachik I found I had to wait four hours for the train to Sokia, so I went out nesting among the gardens and orchards in the neighbourhood. Birds, however, seemed very scarce, and I found only two Goldfinches' nests, the one with four, and the other with five eggs, in a garden near the station-buildings. On arriving at Sokia at 6 P.M., the Greek station-master, who spoke English very well, and to whom I also had a letter of introduction, said he did not think I would be able to get on to Sakizbounou that night, but promised to get either a carriage of some sort or riding-horses to take me and my two servants (Demetrius and a Turk) there the first thing the next morning. Later in the evening I walked up to the liquorice factory with the station-master and was introduced to Mr. B. H——, the superintendent. As soon as he heard of my projected expedition to the lake and marshes at the mouth of the Meander, Mr. H——, who is a good sportsman and has the tastes of a naturalist, offered to go with me, and as his time was limited we determined to start that very night. We at once set to work on our preparations, and by midnight had everything ready. We sent one man on ahead with a pack-horse carrying our baggage—which we cut down to the smallest limits—and then lay down to rest for an hour and a half. We then had something to eat and a cup of tea, and started for Sakizbounou at about 2 A.M. I left Demetrius behind with instructions to return to Bournabat the next day, but took with me my Turkish servant, who carried a shot-gun, while Mr. H—— was accompanied by a trusty Circassian armed with a rifle.

After leaving the town of Sokia we rode westward down the valley of the Meander, keeping the dim figure of the Circassian—who, being intimately acquainted with the country, acted as our guide—constantly in view. At first the path we were following led us along the river's bank, and then we struck across a great open plain. We passed several Yuruk encampments, round which the shadowy forms of camels and horses were feeding, and much disturbed the equanimity of the great wolf-like sheep-dogs, which always left their charge and escorted us for several hundred yards on our journey, barking most furiously all the while. Just as day was breaking we came to a small village on the bank of the Meander. There must have been more than fifty pairs of Storks nesting in this small village, and every hovel had two or three nests on it. In most of these the young birds had already been hatched, but some still contained eggs, on which the females were sitting. Although it was as yet scarcely daylight the great majority of the Storks were already on the look-out for food. They were walking about in crowds just outside the village, very like flocks of geese, and were almost as tame.

About 6 o'clock on the morning of May 13th we reached Sakizbounou, a small Turkish village on the Meander river, halfway between a large open lake and a vast marsh almost entirely covered with reeds. The water of both the lake and the marsh is brackish, but not exactly salt. The Greek to whom we had brought a letter of introduction we found to be a very intelligent-looking, civil, and obliging man; he kept a sort of inn, and rented a fishery on the lake from the Turkish Government. Noticing many Lesser Kestrels flying in and out of the loft above the inn, we at once explored it and found several clutches of eggs, smaller and lighter in colour than those of the Common Kestrel. In some cases a slight apology for a nest had been made, but more often the eggs were laid in some inequality of the floor of the loft. Just outside the inn a large tree was growing, among the rather scanty foliage of which I noticed a nest suspended at the end of a long thin branch, at a height of about 25 feet from the ground. It proved to be that of a Penduline Tit (*Ægithalus pendulinus*), but was not quite ready for eggs. This nest was beautifully made of a kind of wild cotton closely felted together, camel's hair being used to attach it to the branch at the end of which it hung. In shape it closely resembled the nest of a Long-tailed Tit, but the entrance-hole, instead of being flush with the side, was at the extremity of a neatly-made passage, over an inch in length and less than an inch in diameter. From the inland plains of Asia Minor, where sheep and camels are numerous, I have seen nests of the Penduline Tit made entirely from the wool and hair of these animals.

After we had had something to eat, Mr. B. H—— and I started for the marsh. We were accompanied by our own two servants, and two or three local men who were to act as guides, all of us being mounted. We first crossed the Meander on a ferry, and then rode some two or three miles across an open plain, to the edge of the marsh. While crossing the plain we saw several large flocks of Rose-coloured Pastors (*Pastor roseus*), which frequently settled on the ground. I believe that these birds are late breeders, and fancy that those we saw were on their way to their breeding-grounds.

Soon after we reached the edge of the marsh we began to see many interesting birds: a pair of Black-winged Stilts (*Himantopus candidus*), two pairs of Spur-winged Plovers (*Hoplopterus spinosus*), Great White Egrets (*Ardea alba*), Little Egrets (*Ardea garzetta*), Purple Herons (*Ardea purpurea*), Night-Herons (*Nycticorax griseus*), Squacco Herons (*Ardea ralloides*), and Little Bitterns (*Ardetta minuta*). A good many Ducks, too, were flying about, of species which I could not identify with any certainty, besides numbers of graceful swallow-like White-winged Black Terns (*Hydrochelidon leucoptera*). Among the bushes which here and there skirted the marsh flitted numbers of Grey-backed Warblers (*Aëdon familiaris*), conspicuous from their ruddy brown tails, which when expanded showed the edging of black and white very plainly. These birds had, I fancy, only just arrived in Asia Minor from their winter haunts in Africa, and had not yet commenced to nest.

When Mr. B. H—— questioned our guides as to where the different species of Herons and Egrets nested, we found that they had no exact knowledge themselves, though they said they would be able to get precise information from some of the shepherds who were scattered over the plain near the marsh, tending herds of camels, horses, and cattle. One after another of these men was, however, cross-examined and found to be hopelessly ignorant of the actual breeding-sites of the birds the eggs of which we wished to take. Everyone professed to know that all the many sorts of birds we had seen nested somewhere in the reeds, but as the marsh before us was miles and miles in extent this general knowledge did not help us much. At last we came across a man who told us that he could show us nests and eggs in the reeds, and as he said he had taken 500 eggs only a few days before for food, we thought he must know the breeding-station of a Heron-colony. He told us that the water in the marsh was nowhere deep, and offered to take us on horseback to that part of it where he had lately collected numbers of eggs, if we would wait until he caught one of his horses. This he quickly did, and Mr. B. H—— and myself—each of us carrying a light collecting-box slung over our shoulders—were soon riding behind our guide down a narrow open channel of water leading out into the marsh. The depth of the water varied from two to four feet, but was seldom less than three; the bottom, however, was hard and sound, so that the horses never floundered about. Sometimes the reeds were fairly thick, though nowhere on this side of the marsh at all dense or very high; but about a mile from the shore there grew an almost impenetrable reed-brake, with stems as thick as one's fingers, and flowering tops rising some ten feet above the water. As we waded slowly through the shorter and more open reeds, dozens of Purple Herons, Night-Herons, and Little Egrets rose in front of us, while numbers of White-winged Black Terns flew over our heads, but for some time not a nest of any sort could we discover. At last a shout from our guide announced that he had found something, and on our getting up to him he pointed proudly to a Coot's nest containing nine eggs, and seemed much disgusted when he learned that this was not what we were looking for. On being questioned by Mr. B. H——, who speaks Turkish and Greek fluently, our crestfallen guide told us that it was eggs of this colour that he had taken a few days before, and that he thought they were laid by the different kinds of Herons that were always to be seen in the marsh. Blue eggs, he told us, he had never seen. We found that we were unable to penetrate with the horses into the dense cane-brake, but, hoping to discover some nests of the White-winged Black Terns, we spent four hours riding all over the more open parts of the marsh. We failed to discover any of the floating nests of the Terns, and I do not think these birds could have yet commenced to build. We met with great numbers of Coots' nests, and some twenty nests of the Great Crested Grebe (*Podicipes cristatus*), though we never caught sight of either a Coot or a Grebe, as the birds always slipped off their nests and dived or swam away without showing themselves, so that the Turkish shepherd may be excused for believing that the eggs he had taken had been laid by Egrets or Herons, which were everywhere very much in evidence. Numbers of Great Reed-Warblers (*Acrocephalus turdoides*) were uttering their harsh grating notes, just within the edge of the cane-brake, but we could find none of their nests, and I fancy that they too had not yet commenced to build.

I now felt pretty certain that the Herons were nesting somewhere in the middle of the great cane-brake, as there were said to be no trees of any kind growing in any part of the marsh, and on watching the birds I presently saw a Night-Heron with a reed in its bill. I watched it flying over the high flowering reeds until it disappeared in the distance. In a few minutes I saw another Night-Heron flying in the same direction, also with a reed in its bill, so we determined to ride round the edge of the marsh to a point of high ground from which we thought we would be able to see exactly where these birds, which were evidently building their nests, were settling. It was about 1 o'clock and most intensely hot when we reached the point we were making for, a piece of rising ground close to the ruins of the old Greek city of Pergamos, lying in an angle between the marsh and a bend of the Meander. Here we saw a specimen of that very handsome bird the Smyrnan Kingfisher (*Halcyon smyrnensis*), and here, too, we found an encampment of gipsies, who, being fishermen, possessed a small flat-bottomed boat. These people said they knew where the Herons and Egrets were breeding, but protested that it was impossible to get there with their boat, as the reeds were so thick. They also said that a pair of Swans nested in the reed-bed, and had already got young ones; these Swans which nest in Asia Minor are wild Mute Swans (*Cygnus olor*). With a great deal of persuasion we at last induced two strong young gipsies to make the attempt to take Mr. B. H—— and myself into the reed-bed. At first they punted the boat rapidly along through light reeds, which, however, gradually became denser, until, when we presently got into the big cane-brake, our progress became very slow, and we were often able to advance at all only by getting into the water, which was about four feet deep, and all pushing together. At length, after a couple of hours' hard work, we pushed our boat into a little open lagoon in the middle of the cane-brake and at once saw that we were close upon the nesting-site of a great bird-colony. Glossy Ibises, Night-Herons, and Little Egrets rose in clouds from the reeds, just beyond the lagoon, and among them were a few pairs of Great White Egrets and Squacco Herons, but there did not appear to be any Common or Purple Herons in the colony. After crossing the lagoon, we worked the boat for some twenty yards further into the reeds, and then saw numbers of nests in front of us. Two nests, with eggs somewhat larger than those of either the Common or the Purple Heron, were rather bulky, and were built on broken-down reeds, some three feet above the water. These two nests were very like nests of the Purple Heron which I have seen in Hungary, but as we saw no Purple Herons here, and as we did see several pairs of Great White Herons, I feel sure that they belonged to the latter bird. One of these nests contained two, and the other four eggs. All the other nests, those of the Glossy Ibis, Little Egret, Night-Heron, and Squacco Heron, were built of reeds right down on the surface of the water. The Little Egrets had been, I think, the first to lay; at least all the nests that had full clutches were, I believe, those of Little Egrets. The Ibises and Night-Herons were only just beginning to lay. The dark greeny blue eggs of the former were of course unmistakable, and those nests which we took to belong to Night-Herons were, many of them, empty, while none of them contained more than two eggs; these eggs appearing to me to be all somewhat larger than the full clutches which, I think, belonged to the Little Egrets. We found two nests of the Squacco Heron with eggs, and one Pygmy Cormorant's nest with four eggs. After collecting and marking a few eggs of each species we set out on our return journey, and, getting back to the gipsy encampment by 5 o'clock, reached Sakizbounou just as it was growing dusk. The gipsies told us that the Wild Swans always nested in the centre of one of the little open lagoons in the great reed-bed, building an enormous nest, which would support the weight of two men.

On the following day, May 14th, we paid a visit to the lake, making an early start in the cool of the morning, although we had been up till past midnight blowing eggs. On our way to the lake we followed the course of a small muddy-looking river—an outlet, I think, to the sea. Along the banks of this stream grew numerous wild tamarisk-bushes, and in these we found several Penduline Tits' nests. They were all suspended at the ends of branches overhanging the water, and could have been reached more easily from a boat than from the banks. Some of these nests contained eggs, and the others appeared to be just ready for eggs; all the eggs we examined being pure white, and very much elongated. On reaching the lake-shore, we embarked in a good-sized boat, manned by four oarsmen, and, after three hours' hard row, reached two small rocky islands. Here stood the ruins of old Genoese forts, which had been captured and destroyed by the Turks in bygone times. As we approached the islands we saw numerous Ruddy Sheld-ducks (*Casarca rutila*) sitting perched on the ruined walls. There must have been quite a dozen pairs of these birds, and as we drew near them they flew round us continually, uttering loud discordant cries. These Ruddy Sheld-ducks nest in holes among the rocks at the foot of the walls, but, though we found four of their nests, we did not get so much as an addled egg, the young birds having all been safely hatched out. Where these young broods were was a mystery, as we saw none of them on the open water round the islands. I found a Rock-Dove's nest, with fresh eggs, in a hole in one of the massive walls, also numbers of Jackdaws' nests, some with eggs, and some with young birds. On a long spit of sand running out from one of the islands I noticed a Lesser Ringed Plover, and by the exercise of a little patience found the nest, with four eggs, which were very slightly incubated. We got back to the inn at 5 P.M. While being rowed backward and forward over the lake we saw a great many Crested Grebes, which doubtless nest in the marsh, and come to the open water to feed. We also saw two pairs of Sea-Eagles, and a nest of these birds, a huge pile of sticks, in a great fir-tree placed on the hillside above the lake. This nest we did not attempt to inspect, as it was much too late in the season for eggs.

After reaching the inn we had something to eat, and then packed up our things and started for Sokia. On the plain near the Meander we saw great numbers of Calandra Larks (*Melanocorypha calandra*), but had no time to look for their nests. Seeing a Pied Kingfisher (*Ceryle rudis*) enter a hole in the bank of the Meander, we dug it out, and besides catching the bird obtained six perfectly fresh eggs. We reached Mr. B. H——'s house in Sokia soon after 11 o'clock and got to bed at midnight.

The next morning, May 15th, we were up at 4 and rode to an old deserted farmhouse some three miles from Sokia, where we got some more Lesser Kestrels' eggs; we also found a large colony of Spanish Sparrows, which had built not only all round a Stork's nest, but also all over the branches of the tree in which the Stork's nest stood. There must have been more than a hundred Sparrows' nests in this tree, and nearly all that I examined contained eggs; the full and usual clutch appearing to be six. On our way back to breakfast we found the nest of a Black-headed Bunting (*Emberiza melanocephala*) with two eggs; this nest was placed in a high hedge. After breakfast we took a look round Mr. H——'s garden, and found two Goldfinches' nests and three of the Olivaceous Warbler. The Goldfinches' contained second broods, and one of the nests was so slightly built that, although the bird was sitting on it when we first observed it, the light showed through it. The small compact nests of the Olivaceous Warblers were built among the spines of a species of fir-tree, at a height of ten or twelve feet from the ground, and could with difficulty be seen; they all contained fresh eggs, four appearing to be the full clutch. At midday I bade adieu to my kind friend Mr. B. H——, whose cheery companionship and knowledge of Greek and Turkish had added so much both to the pleasure and to the success of my trip, and took train for Smyrna, which I reached at 4 P.M., and then drove at once to Bournabat.

On the following day, May 16th, I revisited the salt-lagoons along the coast near Smyrna. On the little island which I had previously explored I found several clutches of Pratincoles' eggs (*Glareola pratincola*). For a long time I could discover nothing, as I looked for these eggs on the expanses of sun-dried mud, on which I thought these birds were accustomed to lay, and on which I saw them standing or crouching with outstretched wings. At last I began to search among the heathery scrub with which much of the island was covered, and soon found several clutches of three richly-marked eggs, always laid on the bare ground among, and often quite overshadowed by, the bushy plants. Among these bushes I also found three eggs of a Kentish Plover (*Ægialitis cantiana*). On some banks of bare sand at the water's edge I discovered a number of Lesser Terns (*Sterna minuta*) breeding, as well as a few Common Terns (*Sterna fluviatilis*), and another pair of Kentish Plovers.

Having slept in the launch that night, I visited on the following morning some more salt-lagoons on a part of the coast a little nearer to Smyrna. On an island in one of these lagoons we found a colony of Gull-billed Terns (*Sterna anglica*). These birds had not long commenced laying, for although I found a good number of nests with the full clutch of three eggs, there were numbers containing only one or two. In most cases the eggs had been laid on the bare ground, without any attempt at a nest, in small bare places among the scrubby kind of heathery plants I have before spoken of. On this island I found a few more Pratincoles' eggs, also among the scrub, but at some distance from the Gull-billed Terns' nests. On some stretches of open sand round the edges of this island I found Lesser and Common Terns breeding, and also took the three eggs of a pair of Oyster-catchers, which I had remarked when we first landed. There were a pair of Avocets (*Recurvirostra avocetta*) and a good many Kentish Plovers on the island too, but I was unable to discover where they had placed their eggs, if they had any.

I found two nests of the Yellow-legged Herring-Gull (*Larus cachinnans*), one with three and the other with two eggs; these being indistinguishable from those of the common Herring-Gull of our British coasts. I believe that the Mediterranean Black-headed Gull must breed on this coast of Asia Minor, but I could get no information on this point. On some mudbanks in the salt-lagoon I saw a flock of about fifty small wading birds, which I am almost sure were Dunlins (*Tringa alpina*), also a number of Curlews, which may have been Slender-billed Curlews (*Numenius tenuirostris*). I got back to Bournabat at 4 o'clock on the afternoon of the 17th, and, taking a stroll round the fields skirting the village, found three nests of the Grey-backed Warbler (*Aëdon familiaris*) and several of the Black-headed Bunting (*Emberiza melanocephala*). These two species, both very common, were now just commencing to lay. Both species choose similar situations for their nests, in rather open bushes, usually not many feet from the ground; but while the Grey-backed Warblers' nests are very large, loose structures, lined with an abundance of wool and camel's hair, and with a very shallow open cup, those of the Black-headed Bunting, though also large and somewhat loosely built, are deeper and more neatly finished inside, and as a rule are not lined with hair.

May 18th was my last day in Bournabat, and I spent it with Demetrius nest-hunting in the neighbourhood of the village. We found several Masked Shrikes' nests (*Lanius nubicus*), which were all built on olive-trees and from eight to ten feet above the ground. These nests were always placed on a thick branch, in the same situation that a Missel-Thrush's nest might occupy. They were much smaller and neater—indeed, little more than half the size of the nests of either the Lesser Grey Shrike (*Lanius minor*) or the Woodchat-Shrike (*Lanius pomeranus*), of which latter bird we also found a number of nests, some of them in bushes, but most of them in olive-trees.

On May 19th I said goodbye to my kind friends in Bournabat, and, going on board the steamer at Smyrna, started for Hungary the same afternoon.

During the fourteen days I spent in Asia Minor I travelled over a good deal of country, and utilized every hour possible in looking for nests.

I took the eggs of the following species :—

(1) Black-eared Wheatear (*Saxicola albicollis*).
(2) Orphean Warbler (*Sylvia orphea*).
(3) Olivaceous Warbler (*Hypolais pallida*).
(4) Grey-backed Warbler (*Aëdon familiaris*).
(5) Penduline Titmouse (*Ægithalus pendulinus*).
(6) Eastern Rock-Nuthatch (*Sitta syriaca*).
(7) Woodchat-Shrike (*Lanius pomeranus*).
(8) Masked Shrike (*Lanius nubicus*).
(9) Swallow (*Hirundo rustica*).
(10) Martin (*Chelidon urbica*).
(11) Goldfinch (*Carduelis elegans*).
(12) Spanish Sparrow (*Passer salicicola*).
(13) Cretzschmar's Bunting (*Emberiza cæsia*).
(14) Black-headed Bunting (*Emberiza melanocephala*).
(15) Crested Lark (*Galerita cristata*).
(16) Short-toed Lark (*Calandrella brachydactyla*).
(17) Calandra Lark (*Melanocorypha calandra*).
(18) Common Jay (*Garrulus glandarius*).
(19) Magpie (*Pica rustica*).
(20) Jackdaw (*Corvus monedula*).
(21) Pied Kingfisher (*Ceryle rudis*).
(22) Egyptian Vulture (*Neophron percnopterus*).
(23) Lesser Kestrel (*Falco cenchris*).
(24) Pygmy Cormorant (*Phalacrocorax pygmæus*).
(25) Great White Heron (*Ardea alba*).
(26) Little Egret (*Ardea garzetta*).
(27) Squacco Heron (*Ardea ralloides*).
(28) Night-Heron (*Nycticorax griseus*).
(29) White Stork (*Ciconia alba*).
(30) Glossy Ibis (*Plegadis falcinellus*).
(31) Rock-Dove (*Columba livia*).
(32) Chukar Partridge (*Caccabis chukar*).
(33) Common Coot (*Fulica atra*).
(34) Common Crane (*Grus communis*).
(35) Great Bustard (*Otis tarda*).
(36) Common Pratincole (*Glareola pratincola*).
(37) Kentish Plover (*Ægialitis cantiana*).
(38) Lesser Ringed Plover (*Ægialitis curonica*).
(39) Oystercatcher (*Hæmatopus ostralegus*).
(40) Common Tern (*Sterna fluviatilis*).

(41) Little Tern (*Sterna minuta*).
(42) Gull-billed Tern (*Sterna anglica*).
(43) Yellow-legged Herring-Gull (*Larus cachinnans*).
(44) Great Crested Grebe (*Podiceps cristatus*)

N.B.—I did not personally find the nest of a Great Bustard, but the fresh egg of one of these birds was brought to me during my visit to Appa; it had been taken from a cornfield in the plain near the station.

XXIV.—*An Ornithological Expedition to the Zambesi River.* By Boyd Alexander, F.Z.S.

[Concluded from p. 109.]

165. **Indicator sparrmani** Steph.

This Honey-guide was first met with near Zumbo, and became more plentiful further up the river, especially in well-wooded districts, where we observed it in small parties that kept much to the tops of high trees. In December they were in a moulting condition. The natives disapproved very much of our shooting these birds, which, they said, often enabled them to find the nests of bees. There appears to be some truth in this, when the following incident is considered. On October 7 we landed on a small well-wooded island, which we commenced to explore. On the ground, under a thicket, one of these Honey-guides was observed busily but silently searching after food. We shot the bird, not knowing, however, what it was at the time, and as the thicket was almost impenetrable we sent in one of our native boys to get the specimen. Meanwhile we had left the spot and were continuing our investigation of the small island, but on looking back a short time afterwards we found that our boys were not following us. Eventually, on retracing our steps, we discovered them on their hands and knees about twenty paces from the place where we had shot the Indicator. A fire had been lighted, while one of them was busy with his axe unearthing something from the ground. This proved to be a big bees'-nest. Our boys made short work of the black-looking honey, large pieces with grubs and all disappearing down their throats, greatly to our amusement.

It therefore appears that the presence of this bird under certain conditions (this instance, for example) affords the native a clue as to the whereabouts of honey; but the belief that the birds of this genus will actually guide the traveller to bees'-nests, and even to dangerous places such as the lair of the leopard or lion, seems to be one of the fallacies of popular natural history, having chiefly emanated from hunters and explorers.

I do not remember skinning tougher birds; it was next to impossible to tear the skin, which, when dry, became like stiff parchment.

We procured a good series of this Indicator, which is by no means demonstrative; the note is nearly always uttered on the wing. A male shot on October 27 has the upper parts and the dark portions of the tail-feathers ashy brown, while the feathers are much abraded, especially those of the greater and lesser wing-coverts. The bill is whitish horn-colour. At the end of December, the specimens obtained were in the process of moult. The new feathers of the upper parts and tail are dark brown, contrasting strongly with the old bleached ashy-brown feathers, and imparting to the upper parts a very mottled appearance. The bills are brownish horn-colour. The sexual organs of these specimens were approaching a breeding condition.

166. INDICATOR MAJOR Steph.

The only specimen obtained was a female, which corresponds with one in the British Museum, from Fort Chiquaqua, Mashonaland. These specimens have no black on the chins and throats, but otherwise are similar in plumage to the adult male of this species. Nearly all the specimens in the British Museum are immature males, with the feathers of the chin and throat showing signs of becoming black. It is quite possible, however, that the above-mentioned female specimens may be immature, and that both sexes when fully adult have the black chin and throat.

167. INDICATOR BARIANUS.

Indicator barianus Heugl., Syst. Uebers. p. 48 (1856); Sharpe in Rowley's Orn. Misc. i. p. 203, pl. upp. fig. (1876).

Indicator bœhmi, Rchw. J. f. O. xxxix. p. 39 (1891).

Found on the higher reaches of the river, but not so numerous as the preceding species.

Our three specimens, obtained at the end of December, are in magnificent plumage. The whole of the underparts are suffused with yellow, brighter on the chin, throat, and fore-neck, while the feathers of the upper parts are washed with olive-yellow, becoming more distinct on the crown. The sexes are alike in plumage, our specimens, by dissection, being two males and a female.

In the Cat. B. B. M. vol. xix. p. 7, this bird is erroneously arranged as the female of *I. major*.

The following specimens of *I. barianus* are in the British Museum:—

Ad. sk. without locality (*H. Seebohm*).

2 ad., 1 imm. sk. Zambesi (*Bradshaw*).

Ad. ♀. Wadelai (*Emin Pasha*).

Ad. sk. Mombasa (*R. B. Sharpe*), figured in Rowley's Orn. Misc.

The immature birds of this species have little or no yellow on the underparts, the whole, with the exception of the fore-neck, being pale white. They can at all times be distinguished from those of *I. major* by the olive-yellow shade on the upper parts, and the more slender bill, which is black.

Adult ♂ (above Zumbo, Dec. 24, 1898). Iris brown, bare skin round eyes bluish white; bill dark brown; legs and feet greenish slate-colour.

Total length (measured in the flesh) 8 inches, wing 4·5.

Adult ♀ (above Zumbo, Dec. 12, 1898). Total length (measured in the flesh) 7·2 inches, wing 4·2. Coloration of soft parts as in the male.

168. MELANOBUCCO TORQUATUS (Dumont).

A rather scarce bird and of a retiring nature. We occasionally met with it along the river, obtaining our last specimen at Zumbo on Dec. 13.

169. Barbatula extoni Layard.

Adult ♀ (near Zumbo). Total length (measured in the flesh) 4·3 inches, wing 2·3. Bill black; iris brown; legs and feet black.

170. Trachyphonus cafer (Vieill.).

Common. Observed either singly or in pairs. In the pairing-season, towards the end of November, the males were to be heard constantly in the woods. The song, if it can be called one, is uttered from the tops of tall trees, and consists of a string of trilling notes that are at first given out very softly, sounding somewhat ventriloquial, and remind one forcibly of those of the Grasshopper Warbler, then towards the finish they become very loud and well-marked, exactly like the clicks of a mowing-machine.

171. Campothera smithi (Malh.).

Not common. First met with near Zumbo. A female obtained on November 23 had sexual organs in breeding condition.

Adult ♂. Total length (measured in the flesh) 7·43 inches, wing 4·5. Iris light claret-colour; legs and feet brownish green.

172. Campothera bennetti (Smith).

Scarce. *Adult* ♀. (near Kafue river, Dec. 27). Total length (measured in the flesh) 8·2 inches, wing 4·5, culmen 1, tail 3·1. Iris reddish brown.

173. Dendropicus cardinalis (Gm.).

Common. Our specimens agree in measurements and size with the Nyasaland birds from Zomba, Itawa, and Songwe.

The range of this species is from Cape Colony to the Rovuma river and Songwe on the east, on the west through Great Namaqualand, Damaraland, and in Angola north to the Quanza river.

174. Thripias namaquus (Licht.).

The common Woodpecker of the Zambesi region.

When working the woods hardly a day passed without our observing at least one or two individuals of this species. It is not at all shy, and resembles the Green Woodpecker in its alarm-note and flight. When the first rain was experienced (Nov. 20), being rapidly followed by a general bursting out of leaf, a remarkable increase in the numbers of these birds took place. They were full of activity, the sound of their drilling taps against the hollow branches disturbing the great silence of the woods.

We procured a good series. In some specimens the iris was hazel, in others red. A female (by dissection) obtained on Dec. 26 has some of the feathers of the crown tipped with scarlet.

175. TURTUR SEMITORQUATUS (Rüpp.).

Common in suitable localities where there are extensive stretches of waste land near the river.

We often found this Pigeon in company with *T. damarensis*.

176. TURTUR DAMARENSIS Finsch & Hartl.

Common.

177. TURTUR SENEGALENSIS (Linn.).

Fairly plentiful, and found chiefly frequenting marpela-fields near the native villages. The coo of this Dove is very loud, and might be described by the syllables "kuk-kuk-koo."

Adult ♂ (Chicowa). Iris black; legs and feet claret-red.

Adult ♀ (Tete). Iris hazel; legs and feet purplish-red.

178. CHALCOPELIA AFRA (Linn.).

Ubiquitous.

179. ŒNA CAPENSIS (Linn.).

Of local distribution, but fairly numerous in suitable localities, especially on waste land near the river.

The vicinity of water is essential to this species. Breeds in September.

The note of the male is soft and musical, and might be rendered by the syllables "tui-tui-teu," constantly repeated.

Adult ♂ (Chicowa). Total length (measured in the flesh)

9·75 inches, wing 4·1. Iris black; bill, tip orange-yellow, base claret-colour; legs and feet dark brown.

We found these birds most difficult to skin, quite as bad as the Trogons.

180. Pœocephalus meyeri (Rüpp.).

Pœocephalus meyeri erythreæ, Oscar Neumann, Ornith. Monatsberichte, vii. p. 2 (1899).

Pœocephalus meyeri transvaalensis, id. ibid.

Fairly plentiful from Tete onwards. Observed generally in companies, but now and again in couples, frequenting the wooded banks of dried-up watercourses dotted with pools. At the end of August this species was breeding, when all the males kept company together.

After a careful examination of our series and of the fine material in the British Museum, we are unable to recognize the validity of the two subspecies.

According to Mr. Oscar Neumann, the characteristics of *P. m. erythreæ* (from Kokai) are: (1) a bluish sea-green rump; (2) upper parts washed with olive-green. Of *P. m. transvaalensis*: (1) a slight olive-green wash on the upper parts; (2) a little larger wing-measurement.

Among the fine series of *P. meyeri* in the British Museum there are eight specimens obtained at Kokai (Jesse & Blanford).

All of these birds were killed in the same month (July 1868), within a day or two of each other, and are without doubt freshly-moulted birds. The upper parts have a distinct olive-green wash, and the rump and underparts are bluish green. In this plumage they are typical of *P. erythreæ*.

In the same collection there are also specimens of *P. meyeri*, obtained in the Transvaal in July (*Ayres*). They belong to the subspecies *P. transvaalensis*. These, again, are freshly-moulted birds, and are identical with those obtained at Kokai, except that the olive-green wash on the upper parts is a little less strong.

Five specimens in our series, killed at the end of August onward, as well as others from the Zambesi in the British

Museum, agree very closely with the Transvaal birds, but the rumps are of a clear blue, and the upper parts have become brown, except that a few freshly-moulted feathers are distinctly washed with olive-green, as in the Transvaal specimens. On the other hand, we have a specimen in our series in fresher plumage, and identical in every respect with the Kokai birds. It therefore appears that in all freshly-moulted birds of *P. meyeri* the upper parts have a distinct wash of olive-green, while the coloration of the rump and underparts is made up of the compound colour, bluish green. Under the influence of a tropical sun the tendency in plumage is to become brighter.

Therefore we contend that in both the freshly-moulted specimens from the Transvaal (*P. transvaalensis*) and Kokai (*P. erythreæ*) the coloration of the rump has no typical value, since the primary blue, a decidedly stronger colour in this instance, would under the above-mentioned influence gradually predominate and eliminate the yellow tint, causing the bluish green. This also applies to the coloration of the underparts. Again, the olive-green wash on the upper parts of the freshly-moulted specimens, being a sensitive colour, would gradually disappear through bleaching, leaving the feathers a uniform dark brown.

In the series in the British Museum there is every gradation of shade to be found between the blue of our adult birds (Zambesi) and the bluish green of the Kokai specimens. Regarding wing-measurements, there is a very slight difference between the northern and southern birds; the latter, however, are generally slightly larger, but this is not always constant.

181. Pœocephalus sp. inc.

At rare intervals we came across another Parrot, similar to the preceding one, but easily distinguishable when on the wing by its considerably larger size, and the note also was very much louder. We first observed it near Tete, but failed to procure specimens, owing to its shy and wild nature.

182. Agapornis lilianæ Shelley.

This pretty Love-bird is decidedly rare, having a very limited range along the river.

We met with it first near Chicowa, again at Chishomba, some thirty miles further up the river, and lastly at Zumbo, This Parrakeet frequented enclosed country overgrown with mimosa-bush, in flocks which sometimes numbered as many as twenty birds, the majority of which were males.

At Zumbo this species was fairly numerous within a small area of country, outside of which it was not to be found. Throughout the day small flocks would continually visit the water and travel back again, the same way as they had come, to some thick retreat among the undergrowth of acacia, and in their journey they were ever uttering their rounds of cries, almost in unison, but so shrill that they almost set one's teeth on edge.

A half-caste at Matacania, just below Zumbo, had a number of these Love-birds in an aviary. They did not seem to mind confinement.

This species was described by Capt. Shelley (Ibis, 1894, p. 466, pl. xii.) from specimens collected by Mr. Alexander Whyte at Fort Liwondi, Upper Shiré river. Sir John Kirk appears also to have met with the species, of which he writes:—"Found in one spot, limited to about 20 miles, on the Shiré river, between Nyasa and the rapids. It was never seen elsewhere, but was found there on two occasions. It is gregarious" (Ibis, 1864, p. 329). It is closely allied to *Agapornis fischeri* from the Victoria Nyanza; the latter is figured by Reichenow in the J. f. O. 1889, t. iv. f. 1.

Agapornis lilianæ differs principally in having the crown and occiput brick-red in place of dull olive-green; the nape greenish yellow, and not reddish yellow; the upper tail-coverts green, like the back, instead of ultramarine-blue; tips of the tail-feathers green, not blue.

We obtained a good series, four males and two females.

Adult ♂ (Zumbo, Nov. 9). Total length (measured in the flesh) 5·2 inches, wing 3·45 (wing 2·7? Shelley, Ibis, 1894, p. 466), culmen 0·06, tarsus 0·05. Bill rose-colour; base of upper mandible and soft parts round eye bluish flesh-colour; iris hazel; legs and feet flesh-colour.

Adult ♀ (Chicowa). Total length (measured in the flesh) 5·5 inches, wing 3·5, culmen 0·06, tarsus 0·05. Soft parts as in male.

The female differs from the male in having the head and throat slightly paler in coloration.

Hab. Upper Shiré and Zambesi rivers.

183. Asio capensis (Smith).

Only once met with, among long grass near Senna. Previously Sir John Kirk obtained a specimen at Shupanga.

Adult ♂. Total length (measured in flesh) 15 inches, wing 11·6. Iris brown.

184. Syrnium woodfordi (Smith).

An adult female, obtained out of a pair in thick wood beyond Zumbo.

Adult ♀ (Dec. 23, 1898). Total length (measured in the flesh) 14·5 inches, wing 10·4. Iris black; bill yellowish horn-colour; feet yellow.

185. Glaucidium perlatum (Vieill.).

Fairly common, and found in pairs frequenting hilly country overgrown with *Copaifera mopane*. They seem quite as much alert during the daytime as in the dusk. We used frequently to come across pairs sitting close together on a branch of some leafless tree, with eyes wide open, in the broad sunlight.

We procured four specimens, three of which, obtained in the middle of October, had the sexual organs in breeding condition: the fourth specimen, killed on Nov. 22, is an immature bird; the mantle is considerably darker than in our adults and is far less spotted; the under wing-coverts and feathers of the thighs are rufous, the chin and throat also being washed with the same colour. These parts in the adults are white.

Adult ♂. Total length (measured in the flesh) 7·2 inches, wing 4. Iris yellow; bill yellowish horn-colour.

Adult ♀. Total length (measured in the flesh) 7 inches wing 4·2. Coloration of soft parts as in male.

The specimens in our series differ little in plumage, with the exception of the number of white spots on the tail-feathers, which in some specimens number five, in others four.

186. Glaucidium capense (Smith).

Scarce. Our four specimens were obtained between Tete and Chishomba. These are very fresh in plumage, and agree with specimens in the British Museum from the Upper Shiré river. In our specimens the crown and nape are a light brown beautifully barred with white, forming, as it were, a distinct hood, contrasting strongly with the mantle; the terminal spots to the feathers of the belly and flanks are a rich brown. The type of this species in the British Museum (*Sir A. Smith*) is distinctly more rufous and darker in general coloration than our specimens, and the bars on the tail (14, including the terminal one) are very narrow. This is without doubt an immature bird. In our specimens the bars on the tail-feathers vary in number *inter se*. Consequently this point cannot be looked upon as of any specific value.

Adult ♂ (Aug. 19, 1898). Wing 5·4 inches, tail 3·3. Iris yellow; bill yellowish horn-colour; 12 bars (0·01 in thickness) on tail, including terminal one.

Adult ♂ (Aug. 20, 1898). 14 bars (0·01 in thickness) on tail, including terminal one.

Adult ♂ (Oct. 17, 1898). 13 bars (0·01 in thickness) on tail, including terminal one, the three lowest bars becoming white.

Adult ♀ (Oct. 17, 1898). Wing 5·6 inches, tail 3·5. Soft parts as in male; 14 bars (0·01 in thickness) on tail, including terminal one, the six lowest bars becoming white.

187. Scops leucotis (Temm.).

Three specimens obtained at Chicowa: a pair and a young bird with the feathers emerging from the down. (Sept. 21, 1898.)

Adult ♂. Total length (measured in the flesh) 10·5 inches, wing 8. Iris orange.

Adult ♀. Total length (measured in the flesh) 10·34 inches, wing 7·5. Iris orange.

188. Scotopelia peli Bp.

Rare. Observed only on three occasions. Thick deciduous trees in the vicinity of the river were the daytime-retreat of this Owl. Our specimen belongs to the pale race.

Adult ♂ (near Zumbo). Culmen 2·3 inches, wing 18·4, tail 10·8, tarsus 2·9. Iris dark brown; bill dark bluish horn-colour; legs and feet whitish flesh-colour.

189. Falco ruficollis Swains.

These birds were very numerous at Chicowa, haunting the great stretches of the old marpela-fields, where locusts formed their principal food.

Adult ♂ (Chicowa, Sept. 3, 1898). Total length (measured in the flesh) 10·9 inches, wing 8·2.

Immature ♀ (Chicowa, Jan. 24, 1899). Crown of head and a conspicuous nuchal patch blackish, the feathers edged with chestnut; feathers below the eye, moustache, and eyebrow black; forehead, as well as the sides of the face, neck, and throat, creamy white; hind-neck pale chestnut; remainder of upper parts as in the adult, but interscapulary region greyish black, feathers margined with rufous, also those of the least and greater wing-coverts, mantle and rump; ends of primaries and secondaries conspicuously edged with white. Under surface creamy buff, becoming stronger on the belly and thighs; feathers of the chest with dark rufous shafts; remainder of underparts irregularly barred with blackish brown.

190. Falco subbuteo Linn.

An immature male on Jan. 10, 1899.

191. Falco dickinsoni Sclater.

Three adult specimens of this rare species were obtained near Tete at the end of August.

Adult. Total length (measured in the flesh) 11·85 inches, wing 9, tail 6. Iris brown; bill bluish black; soft parts yellow; legs and feet yellow.

192. Elanus cæruleus (Desf.). Common.

193. Milvus ægyptius (Gm.).

This Kite is well distributed, every native village being watched over by one or more pairs. Their numbers increase, however, in the locality on an advent of a swarm of locusts, a food these birds are passionately fond of. Lizards and mice are also preyed upon, these being devoured when on the wing, while it is not an uncommon thing to see a large whip-snake taken, 2 to 3 feet in length, and as the bird mounts into the air, the snake, hanging down like a length of stout thread, often wriggles loose from the strong claws, but only to drop heavily to the ground, hardly reaching it, however, before its enemy, in one fell swoop, has again transfixed it. Scarcely a day passed without our tent being visited by two or more of these rapacious birds, which at times waxed so bold as to swoop down in front of our skinning-table and carry off the birds we happened to let drop, while on more than one occasion the bodies were those of their own fraternity. During the breeding-season, in September, it is rare to meet with a female, and a long time elapsed before we obtained one. At that season we continually came across parties of males basking leisurely in the full glare of the sun on sand-banks in mid-stream.

This Kite nests on the rocky clefts of high hills, but on one occasion we found a nest in one of the topmost forks of a tall acacia-tree, around which the two birds were circling. It was a solid, compact structure of sticks, and about 40 feet up. When wheeling and circling round the female, the male uttered from time to time shrill mew-like cries.

In the adult male the bill is yellow, in the female it is always black.

194. Haliaëtus vocifer (Daud.).

Wherever the river flowed through wooded country we frequently observed specimens of this magnificent Fishing-Eagle, either singly or in pairs, sitting lazily in the glare of the sun on the naked boughs of dead trees close to the water or on snags in mid-stream, the predominant white of their breasts betraying their presence a great distance off, long before their forms became visible to the naked eye. Of a confiding nature, this Eagle allows of a close approach, welcoming the traveller with a beautiful clear-noted cry, which reverberates through the deep and rocky places of the river's vicinity, and is uttered with swelling throat and head well thrown back. When unnecessarily disturbed the cry becomes almost painful, resembling that of a captured fowl.

Regarding food, this bird is somewhat fastidious, often catching a fish merely to drop it again, or to play with it by tearing the body rapidly to pieces. When once the fish is dropped, it is rarely picked up again. The native knows this, and often watches the bird for the sake of the discarded prey. On one occasion one of our boys ran to the spot where a Fishing-Eagle was sitting, and brought back a good-sized fish weighing nearly two pounds. With the approach of the rainy season, when the river begins to rise, the number of this species becomes greatly augmented, and more than once we met with quite a flock of them, among which were several in the immature brown plumage.

During our short stay at Chinde, in July, the British Consul gave us a magnificent adult which he had kept in confinement for some time. He was only too glad to get rid of it, since its food cost him a good many fowls a week, and although he had already released it, the bird refused to leave its comfortable quarters for long, but returned again the next day. The Consul told us that this Eagle was quite as good as a watch-dog, for if any strangers approached the house the bird immediately gave vent to vociferous cries.

195. HELOTARSUS ECAUDATUS (Daud.).

Adult ♂ (Chicowa, Sept. 16, 1898).

This Eagle now and again used to take bird's-eye views of our camps, circling high overhead with a graceful flight, the deep black of its under surface contrasting strongly with the white of its under wings.

196. Circaëtus cinereus Vieill.

This species is very Buzzard-like and sluggish in its flight, flying, as a rule, much higher than the undergrowth.

Adult ♂ (Mesanangue, Sept. 9, 1898). Total length (measured in the flesh) 30 inches, wing 22. Weight 3 lbs. Iris yellow; legs and feet whitish flesh.

Immature ♀ (Mesanangue, Aug. 26, 1898). Total length (measured in the flesh) 29·5 inches, wing 22·5. Iris yellow; legs and feet flesh colour.

The crop of this last bird contained two large snakes, one measuring 40·5, the other 43 inches, and nearly 1 inch in diameter.

197. Asturinula monogrammica (Temm.).

An adult female below Tete, Aug. 6, 1898.

198. Melierax gabar (Daud.).

Fairly common. Observed chiefly at dusk, swooping with a rapid flight in and out of the patches of fish-cane, now and again to enter them and cause consternation among the flocks of half sleepy Weavers there for the night.

Adult ♂ (near Tete, Aug. 6, 1898). Iris bluish black; bill black, base coral-red; legs and feet coral-red.

Adult ♀ (Kafue river, Dec. 28, 1898). Iris red; bill black, base orange-red; legs and feet orange-red.

Immature ♂ (Chicowa, Oct. 6, 1898). Iris orange-yellow, cere and base of bill yellow; legs and feet orange-yellow.

199. Astur polyzonoides (Smith).

Two adult males and two immature birds obtained. Preys a great deal upon the flocks of Weavers. One of our specimens was shot in the act of devouring a small Weaver (*Pyromelana sundevalli*).

The flight is erratic, which makes shooting it no easy matter, for the bird has a peculiar way of suddenly dipping just when shot at.

200. Accipiter minullus (Daud.).

Fairly plentiful, frequenting the marpela-fields of the year before and waste places overgrown with reeds and fish-cane near the river. The flight of this elegant little Hawk is full of swoops and curves. Locusts are preyed upon to a great extent.

Adult ♂ (Chicowa, Oct. 9, 1898). Total length (measured in the flesh) 9 inches, wing 5·4. Iris orange-red; eye-ring and base of upper mandible lemon-yellow; legs and feet yellow.

Adult ♀ (Chicowa, Oct. 9, 1898). Total length (measured in the flesh) 10·6 inches, wing 6·2. Coloration of soft parts as in male.

201. Circus macrurus (Gm.).

An immature male at Chicowa, Oct. 14, 1898, and a female at Zumbo, Nov. 15.

Found on the low waste lands bordering the river, where it seeks its prey in early morning and again at dusk, remaining inert during the day on a shady branch of a thick tree, not far, if possible, from its hunting-grounds.

202. Polyboroides typicus Smith.

An immature female near Chishomba, Oct. 25, 1898. Iris brown; cere bluish flesh-colour; legs and feet yellow.

203. Serpentarius reptilivorus (Daud.).

We made our acquaintance with one in confinement at the Stores of the Zambesi Company, Zumbo.

204. Neophron percnopterus (Linn.).

Observed once on migration, Sept. 1. "A large flock, quite 100 in number, suddenly appeared at a great altitude this morning—white specks in the sky, as they circled in the sunlight."

205. Neophron pileatus (Burchell).

The scarcity of Vultures along the river struck us as remarkable, since we expected to find every native village watched over by one or more of these birds; but no, the scavenger of the bird-world was conspicuous by its absence. The numerous pigs in the precincts of the native villages devour with avidity all the offal, and this is quite enough to account for the absence of the feathered scavenger. Our first sight of this species was at Matacania, just below Zumbo, where we obtained one out of a pair on Nov. 27. After this date we occasionally saw small parties, evidently on migration southward, while on one occasion a big party suddenly appeared, as if from nowhere, and took up a position not far from the spot where some natives were busy cutting up a "hippo" that I had shot the day before. They kept at a respectful distance, watching with greedy curiosity the rows of biltong gradually lengthen as the natives plied the carcass with their knives and axes, but now and again one bolder than the rest would come forward and sneak off with a morsel, only, however, to be chased on return by the others with open wings.

Adult ♀ (Nov. 27). Iris bluish black. Soft parts bluish and purplish flesh-colour, with brighter patches of the latter colour round the eyes. Legs and feet bluish flesh-colour.

206. HAGEDASHIA HAGEDASH (Lath.).

Parties now and again observed roosting on leafless trees overhanging the river. Never seen singly.

207. PLEGADIS FALCINELLUS (Linn.).

Found on the lower reaches of the river in July.

208. PLATALEA ALBA Scop.

A party appeared on a stretch of low sand opposite Zumbo on Nov. 9.

209. HERODIAS RALLOIDES (Scop.).

Seen singly or in pairs, and first observed on Oct. 29 not far below Zombo. On Dec. 30, near the Kafue river, we passed through low, flat, reedy country. Here a fair number occurred, and there is not a doubt that a breeding-station existed somewhere in the locality.

An adult female obtained on Jan. 4 had the sexual organs in breeding condition. Iris lemon-yellow. Soft parts, legs, and feet greenish yellow.

210. HERODIAS ALBA (Linn.).

Solitary individuals frequently observed where the river was a mass of sandbanks. Towards evening this graceful Heron was to be seen travelling at a quiet pace along the water's edge. The gait is ambling, the back being constantly jerked up and down in walking.

211. HERODIAS GARZETTA (Linn.).

Well distributed. "Jan. 12. A large flock of Egrets, some 50 in number. They kept flying a few yards ahead of our boat, always skirting the bank, where now and again they rested, their bodies making a startling contrast with the green leaf of the bushes and the reddish brown of the steep bank."

212. ARDEA MELANOCEPHALA Vig. & Child.

On the lower reaches of the river below the Shiré river.

213. ARDEA PURPUREA Linn.

Common. An immature male at Chicowa, Sept. 15.

214. ARDEA GOLIATH Rüpp.

By no means common. Roosts on trees in impenetrable marsh-land. We once disturbed a party at dusk. As they flapped away their gigantic size struck us immensely. We seldom saw these birds during the daytime, but towards evening solitary individuals would steal out on to the open sandbanks of the river.

215. BUTORIDES ATRICAPILLA (Afzel.).

A pair obtained near Zumbo on Nov. 1.

Adult ♂. Total length (measured in the flesh) 20·67 inches, wing 6·5. Iris yellow; upper mandible black, lower greenish yellow; tarsi and feet, upper surface dark green, under yellow, becoming brighter underneath feet.

Adult ♀. Total length (measured in the flesh) 19·67 inches, wing 6·4. Coloration as in male.

216. NYCTICORAX GRISEUS (Linn.).

Observed on the lower reaches of the Zambesi, near the Chindi river, where the country is very low and swampy, great stretches of reed-beds enclosing the river as far as the eye can reach. On several occasions we observed these birds travelling down the river on floating rafts of tangle and weed. They are sluggish birds, and seem to prefer this kind of travelling to that by flight. We constantly passed them standing, all hunched up, on bushes overhanging the water, and so close that we could have knocked them over with sticks, but they took no notice of us.

217. Ardetta sturmi (Wagl.).

Rare. A pair obtained close to Kafue river on Jan. 7, with sexual organs in breeding condition.

Adult ♂. Total length (measured in the flesh) 17·4 inches, wing 6·8. Iris red; soft parts bluish flesh-colour; legs yellowish; feet brown.

Adult ♀. Total length (measured in the flesh) 15·15 inches, wing 5·9. Coloration as in male.

218. Scopus umbretta Gm.

An adult male, Chicowa, Sept. 15. Contents of stomach, tadpoles.

219. Ciconia nigra (Linn.).

Large parties observed on the sandbanks from time to time, especially in December. When feeding, their movements are extremely slow. No order is kept in the flock, and close formation is soon lost, each bird going its own way.

220. Mycteria senegalensis Shaw.

Single birds (adults) now and again seen, especially on the lower reaches of the river.

221. Phalacrocorax, sp. inc.

A Cormorant observed on the Kafue river was generally glossy black and of larger size than *P. africana*; it was probably *P. capensis*.

222. Phalacrocorax africana (Gm.).

Well distributed. All our specimens, killed in November and December, are in the non-breeding plumage. Out of the breeding-season these birds are generally to be observed in large parties, numbering sometimes as many as fifteen. This Cormorant swims very low in the water, its back being hardly seen; only a long neck is visible, giving one the idea of some water-snake rather than a bird, and as it travels down with the stream, the thin Darter-like neck is continually being pushed into the water till fish is taken. It is a very careful bird and difficult of approach.

223. Pelecanus onocrotalus Linn.

Found on the lower reaches of the river below the mouth of the river Shiré.

224. Hydrochelidon leucoptera (Meisner & Schinz).

Migratory on the Zambesi. First observed on Sept. 27 at Chicowa (a party of five). At Zumbo, on Nov. 11, for two days immense flocks kept passing down the river, mottling the air white with their bodies. Again, on Dec. 30 and Jan. 2, large flocks were observed beating down the river.

Three females obtained in winter-dress.

225. Rhynchops flavirostris Vieill.

Not common. On the Chicowa flats we came across a small party breeding on a sandbank (Sept. 27). We found a nest containing three eggs (much incubated) in a deep capacious hole scratched in the sand.

Description of the eggs.—Average measurements 1·57 × 1·2. Ground stone-colour, blotched and spotted all over with light umber-brown and underlying markings of purplish brown. These birds are fond of congregating over some pool towards nightfall, flying to and fro catching their prey.

The flight is steady, the wing-beats being very marked, the bird skimming the water the whole time.

The note is a loud, harsh "kip," constantly repeated.

226. Larus cirrhocephalus Vieill.

Single individuals frequently observed all along the river. On our way up to Chindi we saw big flocks at Durban, in Delagoa Bay, and at Inhambane.

Adult ♂ (Senna, July 25, 1898). Iris straw-colour; bill, legs, and feet dark crimson.

227. Phœnicopterus roseus Barr.

Flocks seen in July on the Zambesi deltas, but not beyond the tide-influence. During our stay, on July 9, at Inhambane, Flamingoes were numerous. Towards evening, at low tide, a vast tract of land in the bay was the resort for flocks of these birds. They were a perfect sight. In long lines, they kept creeping over the wet sand, neither turning to the right hand nor to the left, their long necks well craned down, all busy feeding, looking at a distance like so many cattle in the act of grazing. On starting for another feeding-ground they would all close up in a dense formation, while one bird advanced as the pioneer of the great band, and not till it had lowered its neck to feed on the new ground did the others dream of doing so. And when the heavy dusk came on they were still feeding.

228. Plectropterus gambensis (Linn.).

Small parties occasionally observed.

229. Sarcidiornis melanonota (Penn.).

An adult male from a small brook near the Kafue river, on Jan. 8.

230. Dendrocycna viduata (Linn.).

Seen now and again in large flocks, 15 to 20 in number. While at Zumbo we used to hear them at night, taking wide circuits inland from the river, keeping up the whole time a sibilant whistling.

They seem easily gulled, the natives catching a good number of them in very simple traps—a flat stone propped up by a stick, after the principle of a brick-trap.

Adult ♂ (Dec. 19, 1898). Iris black; legs and feet bluish slate-colour.

231. Chenalopex ægyptiacus (Linn.).

Common. Generally known as the "Zambesi Goose." It is often to be found in a domestic state in the native villages, but the white man abhors it, the meat being strong and as tough as leather. We met with a brood of 13 young ones on Oct. 25.

232. Pœcilonetta erythrorhyncha (Gm.).

A specimen obtained out of a flock at Zumbo, Nov. 9. This was the only time we observed this species. Although it was the dry season and the river was full of sandbanks and pools, the scarcity of Ducks and Geese seemed to us remarkable. We saw none of those "countless hundreds" that hunters and explorers are so fond of telling us about in order to hide their ignorance in ornithology.

233. Crex pratensis Bechst.

An adult male (Matacania), Jan. 19. Among reeds near the river.

234. Limnocorax niger (Gm.).

The beds of dried-up watercourses, where there are pools made secluded by tall reeds, are favourite resorts, each locality having its pair of these Rails. But the bird is shy and only to be observed in the early morning and evening, when it ventures out from the tangled depths of its thick retreat. When the breeding-season approaches (end of Nov.), this Rail becomes very noisy, constantly uttering its "cluck, cluck" notes; all the while beating time with the tail as it wends its way with dapper gait through the slender columns of the fish-cane, near the pool's edge.

Adult ♂ (Sept. 13, 1898). Total length (measured in the flesh) 8·4 inches, wing 4·2. Iris red; bill dark green; legs and feet brownish red, coral above knee.

Our three adult specimens are very much shaded with grey, while in two the legs and feet are light coral-red. We never observed this species on the river itself; it is essentially a pool-haunting bird. In the wet season, when the smaller watercourses are no longer dry, a migration, probably southward, takes place.

235. Turnix lepurana (Smith).

Of local distribution, frequenting patches of thick, tall grass on low ground near the river. We obtained a fine series of this Quail—the first specimen at Senna, and the majority at Chicowa, where on Sept. 13 we procured a female with one nestling.

Adult. Iris straw-colour; bill lead-colour; legs and feet flesh-colour.

236. COTURNIX DELEGORGUEI Deleg.

By no means common. Found on open waste land, especially in old marpela-fields.

Adult ♂ (Kafue river, Jan. 5, 1898). Total length (measured in the flesh) 7·26 inches, wing 3·6. Iris brown; legs and feet flesh-colour.

Adult ♀ (Chicowa, Oct. 11, 1898). Total length (measured in the flesh) 8·65 inches, wing 3·8. Iris hazel; legs and feet flesh-colour.

237. PTERNISTES SWAINSONI (Smith).

The most numerous of the Francolins on the Zambesi, and found on the higher reaches from Zumbo onward, being especially plentiful in the neighbourhood of that place. This species frequents flat, dusty ground, overgrown with bushes of the cactus plant skirting the river. It is never to be found very far away from water, each flock having its own particular drinking-spot, which is visited every morning and evening as regular as clockwork. In the evening of Dec. 20 we pitched our tent for the night at a spot where a number of these birds were seen. Towards nightfall they became very noisy, constantly running to the crest of the little plateau above our camp to see if we had left, and uttering all the time discordant cries, that resembled those of captured fowls. We had evidently come where the flock was accustomed to seek the river's edge.

An immature female, killed at the end of December, has no chestnut margins to the feathers of the breast and belly, while the secondaries are very much barred and mottled with black.

During the pairing-season the males become very clamorous, giving vent to cries like those of a cock Pheasant as it flies to roost; at other times deep, hoarse croaks that sound very loud in the echoing valleys of the Zambesi. On December 23 we found a nest containing five eggs. It was among weeds, and in a hollow scraped by the bird itself, and lined with dead leaves.

Description of the eggs.—Average measurement 1·5 × 1·2 inch. Colour pale, dirty green.

In December, when the marpela-grain is sown by the natives, these Francolins do a considerable amount of damage. Land-beetles of all kinds also form one of the principal diets of this species.

Adult. Iris bluish black, soft parts brick-red; upper mandible black, lower brick-red, light horn-colour at tip; legs and feet chocolate-brown. In all our freshly-moulted female specimens, killed in November, the feathers of the chest and belly are very distinctly margined with chestnut. See above.

238. **Francolinus sephæna** (Smith).

Not common. Of a shy nature, keeping much to the undergrowth of thick woods.

Adult ♂ (Matacania, Nov. 30, 1898). Total length (measured in the flesh) 12·6 inches, wing 6·2. Iris hazel; bill dark brown; legs and feet red. In this specimen the whole of the underparts, together with the lores and superciliary stripe, are shaded with warm buff, becoming stronger on the belly and vent.

Another adult male, with same measurements, obtained at Mesanangue, Aug. 23, 1898, has the superciliary stripe, chin, and throat pure white, the rest of the underparts being only slightly washed with buff.

239. **Francolinus natalensis** Smith.

Not common. Found in company with *P. swainsoni.* They keep much to one locality, but if disturbed they will not return to it for several days.

Adult ♀ (Matacania, Nov. 29, 1898). Total length (measured in flesh) 11·6 inches, wing 6. Iris brown; bill coral, soft parts lemon-yellow; legs and feet coral. This bird has a well-developed spur on the left tarsus.

On Aug. 30 we obtained an immature female out of a flock of six birds. Iris hazel; upper mandible dark brown, lower light horn-colour; legs and feet light orange.

240. Numida mitrata Pall.

Gregarious and well distributed along both banks of the river, a flock not unfrequently numbering over 50 birds. Each favoured locality, even islands in mid-stream, has its own particular party. Towards nightfall they proclaim their presence to the traveller on the river by their well-known cries, as they go to seek their favourite watering spot. Hardly a marpela-field that is worth anything escapes their surveillance, the thick woods that generally surround the fields forming strongholds from whence these feathered robbers issue and do much damage to the newly-sown grain.

Towards evening, while paddling through some lofty gorge of the river, one may often catch glimpses of this Guinea-fowl among the high rocks. Amid these wild surroundings the bird looks indeed handsome, with face and neck of bright cobalt-blue. He is the leader of a flock that lies ensconced among the rocks, waiting for his signal to advance down to the water. He has thrown off his habitual stooping gait and stands with helmeted head erect, a feathered warrior, seemingly prepared to dispute every inch of his rocky home.

But he means to do nothing of the sort. On the approach of footsteps he sounds the "alarm," then the "retreat," raspy-throated calls that grate upon the ear, and are taken up by all the other members of the flock, when one and all scuttle pell-mell over the ground, now leaping from rock to rock, now spanning some rocky gorge with a clumsy flight. Although there is no order about their retreat, each bird going its own way, yet it is wonderful with what rapidity they reform into flocks and creep back once more to their old spot after the cause of danger has disappeared. As breeding-time approaches (January, the wet season) the birds pair and come together only when feeding. At that time of the year they rely more than ever upon their running-powers, seldom taking flight in the presence of danger, while in the woods it is next to impossible to put them up. In a game-country, where there are extensive stretches of grass-land enclosed by woods, flocks of these birds may be observed towards evening scattered over its surface, some far away in the centre, while others, less bold, feed near the confines. They are all peacefully taking their evening meal, but the report of a gun will send them hurrying towards the nearest cover, affording one an opportunity of observing the wonderful running-power of these birds. With rounded backs, and heads and necks craned to the front, they go sprinting along at a rapid pace, only to slacken off on nearing cover, which may be a good quarter of a mile from their feeding-grounds.

Adult (Tete, August 8, 1898). Iris black; bill yellowish horn at tip, base reddish brown; top of head red; neck and sides of face blue, wattles tipped with red; legs and feet dark brown.

An adult female, killed on Jan. 4, had a bright blue patch on the centre of the throat.

241. GUTTERA EDOUARDI (Hartl.).

Of local distribution, and a very difficult bird to obtain. We first became aware of the presence of this species along the river through a captive bird in the possession of a half-caste at Matacania, some 30 miles below Zumbo. He told us that at a certain time of the year, generally after the rains, the birds come down from the hills, with their young ones, to the vicinity of the river, and it is then that the natives are able to capture them; but at other times it is next to impossible to approach them, since they retire to the inaccessible portions of the high hills and the thick woods that clothe their sides.

By nature this bird is far more retiring than the Helmeted Guinea-fowl, and possesses even a greater aptitude for running, seldom making use of flight. We were fortunate enough to obtain two specimens of this species near the river, above Zumbo, while on another occasion, when pitching our tent for the night, we heard a flock close to the water, and not far off another one, but of the Helmeted species (*Numida mitrata*), enabling us to observe to a nicety the difference between the cries of the two species. The call of the former, otherwise the same as that of the latter, was varied now and again by a tremulous whistle towards nightfall, and kept up long after the evening had closed in.

The Zambesi natives look upon this bird with a certain amount of superstition. Nothing would induce them to eat it, and they told us that its flesh was poisonous. The native name for this species is "Inkankatori," that of the Helmeted bird "Inkanka."

Adult ♂ (sexual organs in breeding condition: Jan. 1, 1899). Iris red; naked skin on head, chin, throat, and neck bluish slate-colour; fold of naked skin at back of neck dirty yellowish white; bill greenish horn-colour; legs and feet slaty horn-colour.

This description was taken directly after the bird had been shot, and there was no sign of red on the throat as described by Mr. Elliot in his Natal specimens (Elliot, Monogr. Phas. ii. pl. 44, 1872).

242. PTEROCLES BICINCTUS Temm.

Of local distribution, but in the favoured localities the flocks are large. We first came across this Sand-Grouse just above Tete, beyond which it was fairly numerous, especially at Chishomba. These birds frequent open spots in the woods where the soil is loose and stony, and the slopes of hilly banks that are coated with dried grass. They are fond of basking in the sun, remaining in a sleepy condition during most of the day. When on the ground it is difficult to see them, and one nearly treads upon them before they rise up, startling one almost out of one's wits with their flare of wings and noisy "chuk, chuk" notes, which are given out simultaneously and with great zest. Out of the breeding-season they go together in large batches, sometimes 30 or 40 in one flock. Each of these companies has its own particular locality, from which the birds seldom stray far. In habits they might almost be termed crepuscular. Every evening, as regular as clockwork, and just as dusk is closing in, they wing their way to their watering spots, while, should the night be moonlight, they feed in the vicinity of the water. At Chicowa we happened to pitch our tent in the direct route of flight of these birds. At evening, always at the same time, they would travel in batches overhead, with a rapid flight towards the river, after a brief time to return the same way as they had come—forming shadows that grew gradually less as they passed into the outer dusk.

During our trek to Chicowa we frequently observed these Sand-Grouse, as we had to cross the sandy dried-up bed of the winding Mesanangue river many times in our route. At one place in particular these birds mustered very strong. It was at a group of pools among boulders of rock in the dried-up bed of the river. Here we stopped for the night. Towards dusk a great pilgrimage of Sand-Grouse visited these precious grails of water. Batch after batch came noiselessly down and formed themselves into dense little crowds by the water. At the approach of a native they would all rise up with a prolonged round of their startling cries and disappear into the gloom down the watercourse with the silence of Bats, but only to return after a short space and drop down again to the water like a shower of spent bullets. As the moon rose, they commenced to feed, and remained at the pools throughout the night, leaving as soon as dawn appeared.

On August 15 we obtained a female with ovaries fully developed. As the breeding-season approaches, the flocks split up, and the pairs scatter over a considerable area of country.

Adult ♂ (Mesanangue, August 26, 1898). Total length (measured in the flesh) 9·8 inches, wing 7. Iris dark brown; bill brownish black, at gape yellow; eyelids, naked skin round eye yellow; feet brown.

Adult ♀ (Mesanangue, August 14, 1898). Total length (measured in the flesh) 9·9 inches, wing 6·5. Coloration as in male.

243. Balearica regulorum (Bennett).

Balearica chrysopelargus, Sharpe, Cat. Birds, xxiii. p. 274.

A party of three alighted on the river near Zumbo on December 2. An individual was observed in captivity at Matacania.

244. PHYLLOPEZUS AFRICANUS (Gm.).

Inhabits the vicinity of pools in dried-up watercourses. Always found in pairs. It is by no means shy, and allows of a close approach. In the breeding-season they become very demonstrative, the male continually chasing the female from one side of the pool to the other, and uttering the whole time a series of hoarse guttural notes. The flight is weak, the long legs being dropped, which gives a very clumsy appearance to the bird.

Adult ♂. Total length (measured in the flesh) 10 inches, wing 7. Iris bluish black; frontal shield and bill bluish lead-colour; legs and feet lead-colour.

Adult ♀. Total length (measured in the flesh) 10·6 inches, wing 7·6. Colours as in male.

This last specimen was obtained on Oct. 17, and had sexual organs in breeding condition.

Immature birds with white breasts were also obtained about the same time. It is probable that these birds do not assume the adult plumage till the second year. In immature individuals the iris is brown, the legs and feet brownish green.

245. LOBIVANELLUS ALBICEPS (Gould).

First observed near Senna on July 22. This bird is found in pairs here and there along the river, haunting the margin of the water where the banks are gently sloping and of a sandy nature. At one's approach these Plovers jump up in a spasmodic manner, as if their very souls had been startled, to fly out low across the water in a circuitous flight, in order to regain the bank further ahead. When startled they are noisy birds, uttering their plaintive but not unmusical "whit," "whit," repeated rapidly in succession, and they will often set up these cries for no apparent reason whatever, obliging the feeding Water-hen (*Limnocorax niger*) to take quickly to the shelter of the reeds, and causing the neighbouring wild-fowl much uneasiness. They seem to take a delight in giving alarm on the slightest provocation. They are often to be found at some distance from water, haunting the sandy stretches of a dried-up river-bed or moist spots where the grass is short and succulent. In such places a small party may regularly be observed towards evening fully occupied in "drawing" worms. On August 1st we came across, on a piece of waste land, a pair that had evidently a nest, judging by the anxiety displayed by the birds, the male running to and fro at the top of its speed, that was broken now and again by sharp halts, while the female feigned continually a broken leg, the bird looking inexpressibly comic as it jolted along over the rough ground on one long leg.

The flight of this species is strong and buoyant, with a steady beat of wings.

At dusk these Spur-winged Plovers become very noisy with their plaintive "whits," while they are often to be heard throughout a moonlight night calling fitfully one to another, their cries at times seeming almost panic-stricken in tone, as if they saw evil spirits walking abroad.

Adult (Aug. 3, 1898, near Tete). Iris lemon-yellow; fore part of bill black, basal half yellow; lappets yellow, marked at their bases on inner side with black; legs and feet pale green. In old males the bluish grey of the cheeks, sides of face, and neck becomes considerably darker in colour.

The southernmost range of this species is the Zambesi river.

246. LOBIVANELLUS LATERALIS (Smith).

Not common along the river, but now and again observed.

247. HOPLOPTERUS SPECIOSUS (Licht.).

An uncommon migrant to the Zambesi. On November 22, after a storm, a large party suddenly appeared near Zumbo. We obtained two pairs.

The note of this species, when flushed, is a sharp discordant "click, click," repeated several times.

248. CHARADRIUS PALLIDUS Strickl.

Well distributed, especially in the dry season (June to December), when the river becomes in places a mass of sandbanks. We found nests on several occasions, one containing three eggs which were well incubated on Sept. 17th at

Chicowa; while the discovery of another nest subsequently enabled us to observe a remarkable example of breeding economy on the part of this Plover. The following extracts from my note-book will explain this:—

"*Sept.* 27. Chicowa flats. Landed on a large island of sand in mid-stream to take up quarters and wait for arrival of paddlers to expedite further journey up river. Heat intense; thermometer in our tent registered to-day 118°. Belts of beautiful shady trees on the opposite bank of the river to gaze at.

"*Oct.* 9. At breakfast to-day Ramm mentioned that he had found a Kentish Plover's nest not 300 yards from our tent. . . . . Went and inspected the nest. There were three eggs, covered over with sand, and so carefully that, had it not been for the maze of footprints round it, discovery would have been impossible.

"*Oct.* 11. Ramm told me to-day that he could never observe the Plovers near the nest; the eggs seemed always to be covered up. In the afternoon I went to the nest: eggs covered up, the pair of birds feeding at the end of the island. For the first time it suddenly occurred to me: Might it not be possible that incubation is brought about throughout the day by the sun acting on the sand which covered up the eggs? Shall watch this nest more closely in future.

"*Oct.* 12. 5.30 A.M.: female bird ran from the nest; eggs warm. About 10 o'clock, eggs covered up; about 3, eggs ditto.

"*Oct.* 13. Heat intense. 8 o'clock, eggs covered up. I lay down on the sand as flat as I could, with my glasses, in order to watch the two Plovers. After some time of searching, I discovered one of them feeding at the water's edge some way off on my left. Soon it ran on to the sand and suddenly squatted down, and remained still for a long time, its body looking like an excrescence on the flat muddy sand, an object easy to lose sight of, but I marked it by a small piece of drift-wood not far off. I watched this bird for over half an hour, but it never moved; so, tired of waiting any longer, my legs being terribly 'rawed' by the sun, I moved and walked towards it. The bird got up and ran. It had been sitting in a slight depression in the muddy sand. This accounts for their breast-feathers becoming so stained. These birds seem to revel in the heat. When other birds have left for the shade these Plovers keep to the hot sand-banks. . . . . 12 o'clock, eggs covered.

"*Oct.* 14. 8 A.M., eggs covered up, as usual. Mid-day, ditto. About 3.30, the two birds observed for the first time close to the nest; a Gull sweeping overhead was probably the reason.

"*Oct.* 15. Before leaving, about 11 o'clock, I went to look for the last time at the nest. The eggs were covered up. . . . . Broke one of them; it was well incubated.

"*Description of the eggs.*—Ground-colour pale buffish brown, minutely spotted and streaked all over with reddish brown, with faint underlying markings of a purplish colour. Average measurements 1·015 × ·088 inch."

249. Oxyechus tricollaris (Vieill.).

This elegant little Plover is by no means common on the Zambesi, not being found beyond Zumbo. On August 17, at Mesanangue, we found a nest on sand between rocks close to the water. It contained three young ones in down. The parents kept flying round them, uttering the whole time the shrill "wick, wick" note of the Sanderling. Towards evening a plaintive whistle is often resorted to. At the beginning of December the young were abroad, frequenting stagnant pools off the river in small parties.

Adult (Aug. 3, 1898). Iris light lemon-yellow; eyelids coral-red; bill flesh-colour at base, black at fore part; legs and feet flesh-colour.

In the immature bird the feathers of the upper parts are edged with buffish white, while the collars on the nape and upper mantle are absent. The iris is black.

250. Totanus canescens (Gm.).

An adult male in winter plumage obtained near Tete, Aug. 18, 1898.

251. Totanus glareola (Linn.).

First observed on Aug. 24, becoming more numerous in November. When walking this species has the same habit of flirting its tail up and down as the Common Sandpiper.

Adult. Iris brown; legs and feet brownish green.

On Sept. 13 we obtained a specimen in worn breeding-plumage.

252. Tringoides hypoleucus (Linn.).

Common. First obtained on August 24.

253. Numenius arquata (Linn.).

The well-known whistle of the Curlew was heard on October 3.

254. Rhynchæa capensis (Linn.).

By no means common, frequenting the muddy portions of the pools near the river. It is not a shy bird, flying low over the ground to alight a few paces further ahead, where it commences to flirt its tail up and down, after the manner of the Sandpipers. It feeds chiefly at dusk.

Adult ♂ (Dec. 1, 1898). Organs in breeding-condition. Iris brown; bill brown; legs and feet greenish.

Our three specimens are all males.

255. Himantopus candidus Bonnat.

The Black-winged Stilt was occasionally observed in pairs on sandspits in the river.

256. Rhinoptilus chalcopterus (Temm.).

It is somewhat difficult, when examining the series of this species and of its near ally, *R. albofasciatus* (Sharpe), to decide as to the validity of the latter species. From the increased material now at hand it certainly may be questioned. The peculiar characteristics of *R. albofasciatus* are—(1) the white bar down the wing, formed by the broad white margins of the greater wing-coverts; (2) the dull bronzy green, scarcely purple, ends of the quills; (3) the absence of the white band at the tip of the tail-feathers. (Sharpe, Cat. B. Brit. Mus. xxiv. p. 50.) Among the series of *R. albofasciatus* in the British Museum there are three specimens, all females by dissection, but none, however, are quite fully adult:—

b. ♀. Colenso, Natal, Nov. 20. White on the greater wing-coverts well defined; no white on tail, tips of the feathers of the latter slightly edged with pale rufous.

d. ♀. Transvaal (*T. Ayres*). White on wing-coverts less well defined; no white on tail, but slightly edged with pale rufous.

c. Immature ♀. Potchefstroom, Jan. 21 (*T. Ayres*). Little or no white on wing-coverts; tail-feathers edged and mottled with sandy rufous.

The following specimen is unsexed, but is without doubt a female:—

a. Natal (*T. Ayres*). No white on wing-coverts; no white on tail, latter edged with sandy rufous.

In the same series there is a very interesting bird, an immature male:—

e. ♂ *imm. sk.* Ondonga, Jan. 22 (*Andersson*).

This bird has the typical white wing-band, and is identical with the Colenso specimen, with the exception of the tail-feathers; several of these are clearly in the process of becoming tipped with white, while others are tipped with pale rufous. This last specimen therefore shows that the absence of the white band on the tail-feathers of *R. albofasciatus* is of no value as distinguishing it from its near ally.

I find that the amount of white on the greater wing-coverts in the specimens of both species varies considerably *inter se.* An adult specimen of *R. chalcopterus* from Damaraland, Feb. 3 (*C. J. Andersson*), has quite as much white on the wing-coverts as the Colenso specimen of *R. albofasciatus,* while in the other adult examples from Nyasaland the white is not so conspicuous, much having disappeared through abrasion.

I am of opinion that Dr. Sharpe's description of *R. albofasciatus* will be found to be that of the female of *R. chalcopterus,* the absence of the white band on the tail-feathers and the less brightly coloured quills being the characteristics of the female.

The correct sexing of specimens in the case of these two species will therefore be of vital importance. I am well aware that there are two sexed females of *R. chalcopterus* with white on the tail-feathers in the British Museum:—
c. Adult ♀, Damaraland (*C. J. Andersson*), Feb. 3. (This bird, as already pointed out, has quite as much white on the wing-coverts as typical examples of *R. albofasciatus*.)
f. Adult ♀, Lake Shirwa (Jan. 1, *A. Whyte*). On the other hand, it must not be forgotten that all the female specimens of *R. albofasciatus* in the British Museum have no white on the tails, which we have proved to be present in the males.

The breeding-season is in October, since there is an adult specimen of *R. chalcopterus* obtained off the nest Oct. 28, 1895, at Henga, near Deep Bay, Nyasa.

The two above-mentioned specimens from Damaraland and Lake Shirwa were therefore obtained in the non-breeding season. At that time ascertainment of the sex in many cases is very difficult, and we have found by experience that if the utmost care is not taken an error can easily be made.

We obtained two specimens, a fully adult male and female, near Senna, and practically in the same locality; these are referred for the present to *R. chalcopterus*:—

Adult ♂ (near Senna, July 27, 1898). Upper parts clear brown; greater wing-coverts banded with white; tail tipped with white; iris black; eyelids red; bill black, red at gape and base of lower mandible; legs and feet brick-red.

Adult ♀ (near Senna, Aug. 4, 1898). Wing-coverts banded with white; quills less bright than in male; tail uniform brown.

In the figures of *R. chalcopterus* and *R. albofasciatus* (Cat. xxiv. pl. iv.) the chin and throat are given as white. In fully adult birds the feathers of these parts are brown, varied with black.

257. Glareola pratincola (Linn.).

Three adults obtained, the last specimen at Chishomba, Oct. 29, 1898. This species resorted to the sandbanks in small flocks. The white rump is very conspicuous in flight. Note like that of the Lesser Tern.

Adult (Senna, July 25, 1898). Iris blue; eyelids coral-red; bill black, coral-red at base; legs and feet dark brown.

258. Glareola emini Shelley.

This species, which is represented in the British Museum by the type obtained by Emin Pasha at Foda in Equatorial Africa, is distributed in small colonies along the river above Tete. Small islands of sand interspersed with rock are favourite resorts. On the smooth portions of the rocks these graceful little birds were to be observed throughout the day in squatting positions basking in the heat of the sun. They evince little fear, and if driven from their retreat they fly away for a short distance, to return again and alight on the rocks, like so many Swallows, uttering all the time a series of faint notes, which might be described by the syllables "kip-kip," rapidly repeated. During a shower of rain these birds would congregate into small flocks and fly to and fro above the water, making a great noise, and all the time busy catching insects. In flight the white of the upper tail-coverts is very conspicuous.

Adult (Mesanangue, Aug. 27, 1898). Iris brown; front portion of bill black, basal portion and gape coral-red; legs and feet coral-red.

Four specimens obtained, the last at Zumbo, Nov. 9, 1898.

XXV.—*Descriptions of some new or rare Eggs of Australian Birds.* By D. Le Souëf, of Melbourne, C.M.Z.S.

1. Micrœca assimilis Gould. (Lesser Brown Flycatcher.)

This interesting little bird is found in the western portion of Australia from north to south, but it is nowhere very plentiful. It has a sweet note and is far from being shy. I noticed it on two occasions near York, in Western Australia. Its small compact nest was found near Katanning, Western Australia, during the latter part of October. It was situated on a fork near the end of a horizontal branch, and measured

1½ inch in diameter by ½ inch in depth. It was composed of grass, and the exterior had small pieces of bark fastened on to it with cobwebs, which made it difficult to distinguish from the branch it was on. There were only two eggs in the nest, but the full clutch is three. The ground-colour is pale bluish green, with irregular dark reddish-brown markings, slightly more numerous on the larger end; the markings beneath the surface are of a pale grey. The eggs measure: A 0·66 × 0·52, B 0·67 × 0·54 inch.

2. MICRŒCA PALLIDA De Vis. (Pale Flycatcher.)

This bird is found across the northern portion of the continent. The nest here described was procured near Cooktown by Mr. R. Hislop on December 11th, 1899, and he also secured the parent bird; the nest was attached to a low melaleuca-tree, about 6 feet from the ground. It is a pretty structure, and very difficult to detect; it is built in rather a wide fork near the end of a branch, and is composed of fine seed-stalks of grass, covered externally with flakes of bark, which are apparently taken off the bough on which the nest is built, and fastened on with cobwebs. The same useful material is used to bind the nest to its support. It measures—external depth 1 inch, internal ¾ of an inch; external diameter 2 inches, internal 1½ inch. There were two eggs in the nest; their ground-colour is light greenish grey, with irregular light reddish-brown markings, which are fairly evenly distributed over the surface; the markings under the surface are of a pinkish grey. The markings on one egg are lighter than those on the other. The eggs measure: A 0·67 × 0·52, B 0·66 × 0·51 inch. Dr. W. Macgillivray had previously briefly described the nest of this species, but no measurements were given.

3. PETRŒCA CAMPBELLI Sharpe. (Campbell's Robin.)

This pretty little bird is found in Western Australia only; it is not shy and has a pleasing note. The nesting-season extends from September to December. One of its nests was found on Oct. 17th, 1899. It was a compact cup-shaped structure, and composed almost entirely of fine shreds of bark, the outside being of a little coarser material than the lining; a few feathers were also woven into the lower portion of the nest; the exterior was lightly covered with cobwebs, on which were fastened small thin flakes of bark, taken off the tree on which the nest was built. It measures—external diameter $2\frac{3}{4}$ inches, internal $1\frac{3}{4}$; external depth $2\frac{1}{4}$ inches, internal $1\frac{1}{4}$. The clutch of eggs is two; they are a swollen oval in shape, and have a whitish ground-colour, with fine very dark brown markings, which are mostly on the larger end and form an irregular zone. The markings under the surface are of a grey colour. The eggs measure: A 0·71 × 0·58, B 0·68 × 0·54 inch.

4. Platycercus icterotis (Temm.). (Yellow-cheeked Parrakeet.)

This brightly-coloured bird is one of the commonest Parrots in Western Australia. It is locally called the "Rosella," and is easily kept in captivity. It has a pleasant though somewhat feeble note, and nests from September to January. A full clutch consists of seven eggs, which are laid on the rotten wood at the bottom of some hole in a eucalyptus-tree. The eggs measure: A 1·4 × 0·86, B 1·12 × 0·88, C 1·6 × 0·88, D 1·7 × 0·87 inch.

5. Philemon argenticeps Gould. (Silvery-crowned Friar-bird.)

I described the eggs of *P. argenticeps* last year, but only from one clutch; this season Mr. R. Hislop has kindly sent me several clutches which exhibit variations in marking worth noting. The first clutch received was reddish pink, but the last lot range from reddish pink, well freckled all over, to others with just the least shade of pink on them and with a few very light greyish markings, hardly discernible, and the latter variety seems the most plentiful. They likewise vary in size, one clutch measuring: A 1·26 × 0·82, B 1·24 × 0·82; and another: A 1·8 × 0·79, B 1·9 × 0·79 inch. Along with the latter clutch was found an egg of *Eudynamis cyanocephala*, and I cannot do better than quote Mr. Hislop's own words regarding it. He says:—

"In the clutch I got on December 27th there was one egg which I think is that of Flinders's Cuckoo, and, strange to say, it was the first egg laid in the nest; it was in the nest when we found it, and it was not until two or three days later that the Friar-bird laid its two eggs, as on coming back four days after we found the three in the nest." The egg is very similar in colour to that of a well-marked egg of the *Philemon argenticeps*; it has a reddish-pink ground-colour, and is well marked all over with elongated reddish-brown blotches: these are more numerous at the larger end, but do not form a zone. The egg measures 1·25 × 0·90 inch.

6. POËPHILA NIGROTECTA Hartert. (Hartert's Finch.)

These Finches were found nesting by Mr. R. Hislop not far from Cooktown, North Queensland. The birds were described last year by Mr. E. Hartert in 'The Ibis' (1899, p. 647).

These birds, like the majority of Finches, feed mostly on the ground, where they can generally get a plentiful supply of grass and other seeds. They nest apparently very early, as Mr. Hislop found eggs on June 9th, 1899. The nest contained five fresh eggs, and was the usual bulky domed structure, composed of grass, and built in a thick bush. The full clutch is five; the eggs are pure white, and a swollen oval in shape. They measure: A 0·56 × 0·41, B 0·52 × 0·42, C 0·52 × 0·42, D 0·52 × 0·42, E 0·53 × 0·42 inch.

7. SMICRORNIS FLAVESCENS Gould. (Yellow-tinted Smicrornis.)

The nest and eggs of this diminutive little bird, probably the smallest of any Australian species, were found by Mr. R. Hislop near Cooktown on October 22nd, 1899. He writes: "I found this bird's nest in a melaleuca-tree, about 15 feet from the ground. I shot both birds at the nest. The female had one egg in her when shot, but it was broken. I have found other nests, but they all contained two young ones." These little birds are very difficult to detect, from their habit of keeping among the topmost branches of the trees, hunting for their insect prey. The nest is a beautiful structure, and built in a thick bunch of leaves and flowers at the end of a branch of the red-flowering melaleuca-tree; it is domed and very small, and is composed almost entirely of the soft downy young melaleuca-leaves and buds, all well bound together with cobwebs, and larger leaves from the same tree are fastened on round it, almost completely hiding the wonderful structure and making it very difficult to see. It is lined at the bottom with a little white down and some yellow cobwebs; it measures—external breadth $1\frac{3}{4}$ inch, internal 1; external depth 3 inches, internal 2. The entrance is near the top, and without any porch. The ground-colour of the egg is brown, with a slight shade of pink, and with a few faint markings of a darker hue, and which form a zone on the larger end, where they are confluent; it measures $0{\cdot}58 \times 0{\cdot}44$ inch. A short description of this egg appeared in the Report of the Horn Expedition to Central Australia, but no particulars of the nest were given.

8. ATRICHIA CLAMOSA Gould. (Noisy Scrub-bird.)

This active bird is found in the southern coastal districts of Western Australia, where it inhabits the dense scrubs. Its nest and eggs were found by Mr. J. Hassell in October 1897 near Albany. He was passing along a narrow track through some thick scrub, when he heard the bird uttering its note; he forced his way to the place, and when doing so suddenly saw the hen bird fly out from what appeared to be a bunch of grass close to his feet, but this, on examination, proved to be the nest, and he has kindly sent me a description of it. It was situated on the ground alongside the root of a eucalyptus-tree, which was about 7 inches out of the ground, and was dome-shaped and constructed of grass and rootlets, with a few leaves, and lined with a white downy-looking substance; it measured—height $8\frac{1}{2}$ inches, breadth $5\frac{3}{4}$. It contained two eggs, slightly incubated, swollen oval in shape, and with a ground-colour of reddish white; the markings are purplish brown, more plentiful on the larger end, where they are confluent; the markings beneath the surface are light purple. The eggs measure: A 0·90 × 0·69, B 0·85 × 0·67 inch.

9. Melithreptus albigularis Gould. (White-throated Honey-eater.)

This Honey-eater is found right across the northern portion of Australia, and is a lively active bird. Mr. R. Hislop found its nest on October 23rd in a melaleuca-tree about 15 feet from the ground; it was suspended near the end of a branch, and is a very pretty structure, being composed of very fine light-coloured shreds of melaleuca-bark, interwoven with small lumps of white silky-looking spiders'-web and thin white pieces of paper-bark, and also lined with the latter material; it is fastened on to the branches with cobweb. It measures—external diameter 2½ inches, internal 1¾; external depth 2 inches, internal 1½. The two eggs of the clutch vary in colour, one being much lighter than the other; the ground-colour is reddish pink in one and pinkish white in the other, with light reddish markings round the larger end, where they are confluent. The eggs measure: A 0·73 × 0·54, B 0·70 × 0·53 inch.

10. Glycyphila subocularis Gould. (Least Honey-eater.)

These little birds are plentiful in suitable localities of Northern Australia, and Mr. R. Hislop found two of their nests containing eggs last season, one on October 3rd, and the other on June 14th. The latter was suspended from a fork near the end of a branch in a melaleuca-tree, about 20 feet from the ground; it is a light structure, and composed of fine shreds of bark interwoven with very thin white pieces of so-called paper-bark and a small amount of cobweb on the outside, which helps to fasten it on to the branch; it is lined with a white downy-looking substance, and measures—external diameter 2¼ inches, internal 1½; external depth 2¼ inches, internal 2. The two eggs of the clutch vary both in size and colour, one being pure white, with a few very faint specks round the larger end, while the other is a very delicate reddish pink, with a faint zone of reddish markings round the larger end. They measure: A 0·66 × 0·50, B 0·63 × 0·46 inch.

11. Geocichla heinii (Cab.). (Russet-tailed Ground-Thrush.)

This species has an extensive range on the north-east coast of Australia, from Cape York to the Clarence River district. It inhabits the gloomy cedar-scrubs near the coast, and is generally seen near water, hopping about on the ground in search of its food, which consists principally of insects. From its colour it is difficult to detect this bird, and when I have been sitting still in the scrub I have often heard it turning over the dry leaves before seeing it. Its nest is an open structure, very similar to that of a Blackbird (*Turdus merula*). It is usually situated in the first and thick fork of a scrub-tree, the bird generally choosing one that has moss growing on its trunk. On the outside it is constructed of moss from the tree, which makes it very difficult to detect. It is lined with rootlets and dark-coloured fibres. The eggs number from two to three.

Mr. H. Lan found a nest of this bird on December 4th, 1886, in the Bunga Bunga Mountains, South Queensland. It contained one fresh egg, which may be described as follows:—Ground-colour greenish white, speckled with small light-coloured rusty-brown dots of varying sizes, and more numerous at the larger end, a few appearing as if beneath the surface, and being elongated and of a very faint purplish colour. The egg measures 1·10 × 0·78 inch.

XXVI.—*On Moult and Colour-change in Birds.*

By J. Lewis Bonhote, B.A.

Being greatly interested in moult and colour-change, I have read very carefully and with much pleasure three recent papers on the subject which have appeared in American periodicals, one* of which upholds the theory of change of colour in the feather, while the other two† are against it.

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* Chadbourne, 'Auk,' xiv. 1897, p. 137.

† Allen, Bull. Am. Mus. Nat. Hist. viii. 1896, pp. 43, 44; Stone, Proc. Ac. Nat. Sci. Phil. 1896, p. 108.

Taking the first paper, that of Mr. Chadbourne, in the 'Auk' for April 1897, I find that in discussing the moult and colour-change of the Bobolink (*Dolichonyx oryzivorus*) he lays down the following axioms, which, I may say, entirely agree with my observations as a whole:—

I. "Because one individual of a given species has moulted, it does not necessarily follow that all individuals of that species moult also."

II. "In the absence of moulting, an alteration in colour must be due to a colour-change in the same feathers; yet it does not follow, on the other hand, that because a bird is moulting, a colour-change in the individual feathers, be they old or new, is thereby excluded."

III. "Feather-change and colour-change, in some cases at least, do take place separately and entirely independently of each other, though the two are also often in progress at the same time*. Hence it necessarily follows that neither can be the direct cause of the other; but that colour-change must be recognized as an independent process entirely distinct from so-called moulting."

Of course, in axiom ii., "an alteration in colour" must be restricted to individual feathers, as a general alteration of colour may be due to abrasion. Again, in axiom iii., colour-change can hardly be regarded as a process *entirely* distinct from moulting, since it sometimes certainly takes the place of moult. These, however, are minor points, not affecting the general principles.

It will thus be seen that my remarks on the Corncrake† entirely bear out and confirm the last axiom, which certainly throws a new light on the question of colour-change, as it has always been supposed to be a method by which the results of the moult are gained without the bird having to undergo such a severe strain on its system.

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* It is worthy of notice that this was first observed by Cartwright in 1792, and has never, so far as I am aware, been again brought forward until the present time. See Edinburgh Philos. Journal, ii. (1820) pp. 271-276.

† Zool. January 1900, p. 29; in which it was pointed out that the male Corncrake undergoes a complete moult in spring, the new dress resembling its winter plumage. The slate-colour of the breeding-dress is, however, assumed immediately after the moult by a change of colour.

Mr. Chadbourne goes on to state that all individuals of a given species do not acquire their breeding-plumage in the same way, some acquiring it by moult, others by colour-change, and others again by both processes. This seems to show an intimate connection between moult and change of colour. The Bobolink is not the only bird in which the method of the assumption of the breeding-plumage varies in different individuals. From the head of *Larus ridibundus* I have taken at the same time new brown feathers and old feathers in process of change, while in other individuals there has been a pure colour-change. The Ruff is an instance of the change going on in two different ways simultaneously. The Ptarmigan, again, is another instance, and from the examples of this species which I have examined I think it doubtful whether it assumes any one of its plumages in a uniform manner. The fact that a bird will assume its breeding-plumage in some feathers by a change of colour, and in others by a change of feather, leads to the supposition that pigment *can* find its way up an old and fully-grown feather. It does not seem to me unlikely that, at a certain season, pigment—which is chiefly a waste product, more abundant, on account of the extra energy expended, at the approach of spring—should be deposited in the follicles of the feathers. If the follicle is at that time engaged in producing a *new* feather, the pigment is placed in it; if not, it is drawn up into the feather which is already full-grown. The fact of one individual moulting and another not casting a feather offers no real difficulties, as moult is influenced by many different causes, some of which, *e. g.* heat, food, vigour, &c., are directly dependent on the individual and its surroundings.

Let us briefly consider the evidence for and against the conveyance of pigment up a feather. Let us take the evidence of our own eyes.

First, for instance, let us select the case of the Golden Plover (*Charadrius pluvialis*). If a specimen be examined in spring, we find the white feathers on the breast in all stages of colour between white and black. Messrs. Allen and Stone would have us believe that these are all new feathers, which have grown of that colour, and which will always remain of that colour. I have shot and examined many birds in the full summer dress, and it is very rare to find more than one or two feathers in this half-and-half stage on any single individual. What, then, has happened to the parti-coloured feathers so common on birds in spring? Have they been again cast? Moreover, it should be noticed that while feathers of various shades are found on the breast, the back is assuming, by direct moult, the full summer plumage, showing no tendency to any half-measures. But surely, if parti-coloured feathers are growing on the breast, and we suppose they are not going to be renewed, in such a case the bird would never acquire a purely black breast, and we should meet with the phenomenon of an individual with full breeding-dress on the back and only an apology for it on the breast. And if, on the other hand, the parti-coloured feathers are to be moulted again, we should find the bird having two moults in about six weeks, which is, to say the least, a very unlikely occurrence. That is about the limit of evidence that can be obtained from skins alone; but I have kept several specimens of this species in captivity, in a large open aviary, and have watched the moult till it was completed, frequently catching up and examining the birds, and although I have never actually marked any individual feather, yet the observations seemed to me so conclusive, and at the same time so obvious, that I did not realize that there were still doubts on the subject. The moult is first noticeable by several feathers showing a slightly darker tinge; day by day more dark feathers show on the breast, and, as the moult becomes advanced, fewer parti-coloured ones*, till, finally, the bird has assumed its full summer plumage.

That the white feathers actually do change may be further proved, since the white feathers are worn at their edges; these edges do not change colour, but there is a space of about $\frac{1}{8}$ of an inch left white, which is lost by abrasion. On the back there is a fairly complete moult, and also under the chin and throat, but the new growing feathers are *white*, not black or parti-coloured, and then change to the black summer dress.

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* See V. Fatio, Mém. Soc. de Phys. et d'Hist. Nat. de Genève, xviii. (1866) p. 249.

All this must be qualified by axioms i. and ii., and although I have no notes to that effect, it would not surprise me to find new black feathers growing on a bird. But I hope I have shown that in some cases this takes place by change of colour, and that therefore change of colour is a possible phenomenon. As to the physiological process which goes on, I am not in a position to write about it at present, but should like to draw attention to a paper by M. V. Fatio*, in which he shows that an *oil* is continually making its way into the feather from body; and this is further confirmed and proved by Mr. Chadbourne in the paper quoted above, both these gentlemen stating that this flow is not due to any active agent, but to osmosis, capillarity, or some similar action. Most pigments are soluble in ether, alcohol, or chloroform, thus proving them to be of an oily nature.

Now, if it has been proved that oil can make its way up a feather, and, further, that all true pigments (black, red, and their combinations) are of an oily nature, it necessarily follows that pigment can make its way up also.

I make no claim to any discovery in this matter. M. Fatio coloured an oil and caused it to make its way up into the barbs and barbules of a feather, in order that he might prove that substances of an oily nature could find a passage through the feather, entirely disregarding the far more important discovery that *pigment* could do so. I may mention briefly that his theory (and it is one that apparently holds good for several birds) was that pigment was formed in various places in the growing feather, and remained there until it was diluted by the colourless oil which made its way from the body of the bird.

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* *Loc. supra cit.*

Let us now turn for a moment to see what evidence can be found on the other side of the question.

The chief argument is that it is anatomically impossible; that a feather once formed has no longer any connection with the blood-system, and is therefore technically a dead and cast-off structure, and that consequently pigment, which can only be brought by the blood, cannot be conveyed to the feather. I have already pointed out that experiments made by others on the subject clearly prove that it is quite possible for pigment deposited at the base of a feather to work its way up by purely physical means. If an artificial pigment can do this, we need have little doubt that it is possible for a natural pigment to do the same.

The two chief papers that have been written against colour-change of recent years are those of Messrs. Allen and Stone*. I have read the former, which is a review of papers in favour of colour-change, very carefully, and although here and there the author points out slight discrepancies in the statements made by other writers, he adduces no proofs in favour of non-colour-change. But as it will perhaps be said that the burden of proof rests with advocates of the change, I will go further, and say that he does not disprove *any* of the statements made in the papers criticised. To deny statements flatly, or to cast them aside as "too obviously absurd for serious consideration," by no means disproves them, but to my mind shows a certain amount of weakness, for if there were any good arguments against the theory of colour-change, Dr. Allen would surely have brought them forward.

I do not propose to deal at any length with these papers, but would like to notice one or two examples of Dr. Allen's contradictions. Criticising some notes made by a keeper at the Zoological Gardens, who stated that the Ruff assumed the summer-plumage on the body-feathers by change of colour, Dr. Allen states: "The Ruff is thoroughly well known to moult its body-plumage in spring." Now I have kept Ruffs in captivity and shot them wild, and, although I know that some do moult their body-feathers in spring, I am equally certain, from those I have had under observation, that they do not *all* do so. The only attempt to account for feathers being found in all stages of colour between the two extremes (for Dr. Allen evidently acknowledges that such feathers are found) is in the following paragraph :—

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* *Loc. supra cit.*

"If one will take a good series of specimens in moult (unfortunately specimens are rare) in the case of species which are alleged to, and which have the appearance of changing colour without moulting, it will be found that the parti-coloured and apparently changing feathers have this appearance when they first break from the sheath in which they are formed, and that these deceptive feathers have not necessarily acquired their peculiar appearance by a subsequent and quite inconceivable change in the amount, arrangement, and character of the colouring matter."

This form of change, however, which is, I grant, found in one or two species of birds, and of which the Corncrake offers an analogous but not quite similar example, is in reality a pure colour-change, although it is apparently so hurried on as to occur concurrently with the moult. The best example is that of the Great Northern Diver, in which the feathers, when first assumed, are of a bluish grey, and in which the bird begins to assume the breeding-dress before these are fully formed. That is the normal form of moult; but it frequently happens, especially among younger birds, that this colour-change is deferred till a month or more after the feathers are fully grown, but then takes place exactly as when the follicle of the feather was in active communication with the body; therefore it is obviously not necessary for the change that the feathers should still have living connection with the body.

The other paper, by Mr. Stone, is one well worth reading by those interested in moult and colour-change; but although Mr. Stone's paper is complete to a certain point, his studies have been chiefly, if not entirely, confined to the smaller birds of the North-American continent, and to those Orders in which the colour-change is most conspicuous, such as the

Limicolæ and Game-birds, have been left untouched. With regard, however, to some of the writer's remarks I must take exception. For instance, he regards birds in captivity as entirely untrustworthy subjects from which to draw conclusions respecting colour-change. But in what other way, may I ask, are we to observe one individual feather through successive days? Mr. Stone argues that birds' habits in confinement are so different, and their constitutions so weakened, that their moult probably takes place irregularly. That may be so, but if a bird be observed to undergo a colour-change in captivity, it is obvious that colour-change in a wild state is also possible. If we find a bird in captivity assuming during the course of several weeks the plumage represented by a series of wild-shot individuals, surely it is not unreasonable to deduce therefrom that each of those wild individuals is assuming its plumage by methods similar to those adopted by the specimen in captivity. To argue facts from birds in captivity *alone* is obviously encroaching on the realms of assumption; but, taking in correlation a series of wild birds, we get a key to the solution of the question.

Again, I must deny that belief in colour-change necessitates a belief in the rebuilding of the worn edges of the feathers. Such is by no means the case, nor is it a fact that, because feathers have evenly-rounded edges, they are therefore freshly grown. A belief in colour-change necessitates a belief in an *even abrasion,* and nothing more. A third argument of Mr Stone's is the want of connection between the feather and the body of the bird; but, as I have already touched on that subject, I will say nothing further here. Mr. Stone tries to explain the apparently colour-changing feathers by the following paragraph:—

"As a matter of fact, these mottled plumages are permanent for the time being, and at each regular moult a greater proportion of the adult plumage is assumed. Scarcely any two individuals, however, correspond exactly in the amount of change that is effected at a given moult; hence a series of breeding-birds taken during the late spring or early summer, representing individuals of a different age, will often show a nearly complete series of intergrades between the two styles of plumage, and there will, of course, be no signs of a moult."

I understand from this that Mr. Stone only recognizes intergrades on different individuals; but if he were to study the Limicolæ, which avowedly he has not done, the intergrades would be found on the same individual. If, furthermore, he would extend his observations to birds in confinement, he would notice that the intergrades on any one individual do not remain constant, but that, "although there were no signs of moult," the intergrades would gradually give place, until the bird had assumed its full and complete plumage.

There is no need to lay down a hard-and-fast law for all kinds of birds. In the Corncrake, for instance, there can be no change of pigment, since blue is not a pigment-colour.

In the Linnets and Redpolls, although the change is from brown to red, no further pigment is introduced when once the feather is formed. The evidence on this point is as follows:—In confinement, through some cause as yet unknown, birds of this genus become yellow instead of red in their full dress. If a bird be taken wild in autumn in its brown plumage, it will become red the following spring; on the other hand, if it should be taken in July, before moulting, it will become yellow in the following spring. This shows that in this case the red pigment is probably deposited in the feather when formed in the autumn.

To sum up briefly, it appears, so far as we are at present able to judge,—

I. That in some cases, e.g. *Crex* and *Colymbus*, a moult takes place entirely independent of colour-change.

II. That it does *not* follow that because a bird is moulting a colour-change in individual feathers, be they old or new, is thereby excluded.

III. That in the same bird, and in the same feather-tract, a different plumage may be assumed, partly by moulting, and partly by a colour-change in the old feathers which are not cast.

IV. That there is considerable evidence to show that pigment may, by a purely physical process, find its way into a fully-formed feather.

It may, perhaps, not be out of place here to recapitulate briefly the various methods by which birds effect a change of colour in their plumage.

Firstly, there is the ordinary moult, or actual replacing of old feathers by new ones. This may be complete, involving a change of *all* the feathers, or partial, in which only certain tracts are concerned. A partial moult may affect only certain parts, and be undergone for the purpose of assuming a distinct breeding-dress, *e. g.* head and neck of the Red-throated Diver in spring; or it may apply to all feathers except the primaries, secondaries, and tail-quills, *e. g.* most young birds of the Passeres in their first autumn, and many species of Passeres in spring; or, again, only to certain tracts, the moult being replaced by change of colour in other tracts, *e. g.* the Golden Plover (see above), or not at all, as the case may be. For simplicity's sake, it is best to consider the moult of the quills quite apart from that of the small feathers, although it takes place only where a moult of the small feathers is going on. Many species of birds in widely different groups moult all their primaries at once, e. g. *Crex, Anas, Gallinula, Colymbus, Alca, Uria*; but as a rule these feathers are moulted regularly in pairs, beginning at the innermost primary and secondary. In some species all the primaries are moulted first, in pairs, and then the secondaries, for instance in *Machetes*.

Secondly, there is abrasion, which consists in the wearing off of the edges of the small feathers, revealing the colour at the base, and so producing a change of colour in the plumage. This is the commonest form of abrasion, and may be well seen in many Passerine birds, *e. g.* in the head of the male Reed-Bunting (*Emberiza schœniclus*), in the head and back of the Brambling (*Fringilla montifringilla*), in the throat of the Redstart (*Ruticilla phœnicurus*), and in many others. In some species it goes a stage further, and the radii of the feathers are cast, leaving the colour in the rami exposed, and giving the bird a much brighter appearance.

This form of abrasion may be seen in the Linnets and Redpolls in late spring. Lastly, there is, I believe, a form of abrasion (of which it is very difficult to obtain positive proof) in which the outer layers of the sheath of the feather become rubbed off, allowing the pigment to show through more clearly; if this is so, the brighter colours of most birds at the approach of spring may be accounted for in this way. M. Fatio, in the paper cited above, is of opinion that oil found its way up and diluted the pigment, thus bringing it nearer the surface; but, from a microscopical examination of the feathers, the granules of pigment in the brighter feathers do not appear larger than, or in any way different from, those in the duller feathers. This abrasion as a moult, and consequent change of colour, must be carefully distinguished from the ordinary abrasion, caused by wear and tear of the feather. The first takes place about a regular time and is of comparatively short duration, and the abraded feathers have even edges and resemble newly-grown feathers. In the other case the abrasion may take place at any season, the abraded edges are always irregular, and if there is any change of colour, it is in the form of bleaching. While dealing with this subject, passing allusion must be made to a valuable paper by Dr. Gadow* on metallic colours and how they are caused, in which he points out how the metallic colours are due to the structure of the outer sheath of the feathers, which act as so many prisms. Bearing this in mind, it would not be surprising to find that a complete change of colour may be brought about by an alteration in the structure of the outer sheath of the feather, the structure being altered by a total or partial abrasion.

Lastly, we have an alteration or re-arrangement of pigment in the fully-grown feather, and probably in some cases an influx, concerning which enough has already been said for the present.

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* "On the Colour of Feathers as affected by their Structure," by Dr. Hans Gadow (P. Z. S. 1882, p. 409).

XXVII.—*On the Birds observed in the Kola Peninsula, Russian Lapland.* By Harry F. Witherby, F.Z.S.

With the intention of crossing Russian Lapland and investigating the avifauna of the district, my friend Mr. A. E. Hamerton and I set out from England on June 3rd, 1899.

On our arrival at Vardö on June 14th, we found that the season was the latest within the memory of the oldest inhabitant of that town; and in consequence we had to wait several days before a Russian steamer arrived to take us on to Archangel. During this enforced delay we made a small collection of birds in the neighbourhood of Vardö. June 19th was spent at Petschenga, and it was not until we had returned home that we found that the Messrs. Pearson had been in the same place five days before us (see Ibis, 1899, p. 522). Like Mr. Pearson, we found the snow here waist-deep and the bare patches round the village alive with birds. As Mr. Pearson has already treated fully of the birds of this district, I need only say that the Wood-Sandpiper, which does not appear in his list, was very plentiful here on June 19th. We also found half-finished nests of the Red-throated Pipit and the Lapland Bunting, although the few small patches of ground bare of snow were practically under water; Temminck's Stints also were pairing.

We left Petschenga on June 20th, in a Russian steamer bound for Archangel, but we were still the victims of delay, ice and fog keeping us hove to for four days in the White Sea, and it was not until June 28th that we arrived at Archangel. Let me advise no one to go to Archangel with guns and cartridges if he can possibly avoid doing so. We were subjected to an enormous amount of inconvenience and considerable expense at the customs, and it was only by the kind help of the English vice-consul, Mr. Henry Cooke, as well as by dint of very hard work on our own part, that we were able to get our baggage cleared in three days and so catch the weekly steamer to Kandalax on July 1st. The following day we made a stay of some hours at the far-famed monastery of Solovetskoi. Within the high walls of this wonderful monastery hundreds of Herring-Gulls are wont to breed. The birds are so tame that any of them will feed from the hand, and their nests are built on the paths and in the courtyards of the monastery itself. On the date of our visit the majority of the birds had young ones, and it was most interesting to watch the old birds feeding them, quite unconcerned by the innumerable pilgrims, many of whom had to step aside to avoid treading on the young birds and being pecked by the adults. On July 3rd we arrived at Kovda, where we very luckily picked up an interpreter to accompany us on our journey overland. Before leaving England we had supposed that we should find such a man in Archangel, but a most diligent search proved fruitless, every likely man being engaged in some way with the number of ships which had just broken through the ice in the White Sea.

The following day (July 4th) we arrived at the little village of Kandalax, at the head of the Gulf of that name in the north-western corner of the White Sea. Here, with the aid of passes from the Governor of Archangel (which, by the way, are absolutely necessary for any traveller in these parts), we were able to engage carriers to accompany us through the country to Kola.

Although more than once they struck and refused to proceed, these carriers on the whole behaved very well. They were, however, most ignorant and careless, and we were never able to trust them to do the simplest duties in camp without keeping them under observation. For instance, at one camping-place one of the men complained of a "very sick stomach." We discovered that they had been drawing all the water from a small stagnant backwater of the lake where the Lapps threw all their refuse. We duly impressed them with the evils that would attend drinking such water, and for two days they rowed over a mile into the middle of the lake to get water for any purpose whatever. But at the next camping-place they drew the water from the most convenient spot, which was of course also used as a deposit for refuse.

From Kandalax we followed almost the same route taken by Mr. Rae, as described in his book 'The White Sea Peninsula.' This route is in fact the winter post-route and the only one possible in summer, since much of the travelling has to be done by water, for which boats are provided at various points. Our itinerary was as follows:—

Kandalax, July 4–6; Kandalax to Zasheech (Imandra), 32 versts (3 versts = 2 miles), July 7 & 8; Zasheech, July 9 & 10; Zasheech to Bella Guba (Imandra), 42 versts, July 11; Bella Guba, July 12; Bella Guba to Raz-Navolok (Imandra), 42 versts, July 13; Raz-Navolok, July 14–18; Raz-Navolok to Pulozero, 48 versts, July 19 & 20; Pulozero, July 21–25; Pulozero to Kitsa, 35 versts, July 26; Kitsa, July 27; Kitsa to Kola, 34 versts, July 28; Kola, July 29–31; Ekaterina, Aug. 1–8.

Our numerous delays counted nothing, for when we arrived on July 9th on the south shore of the Imandra Lake we were told that the ice had left it only four days before, so that had we arrived earlier we could not have proceeded further until the ice had disappeared.

The chief difficulties during our journey were connected with carriers and food. Of the carriers I have already given an idea. Except for the fish we caught, the few birds we shot, and the supplies of bread which we obtained at two places, there were no provisions to be had between Kandalax and Kola. We had taken a supply of tinned foods from England and a quantity of bread from Kandalax, and luckily fish were plentiful all along our route, so that, with care, we managed to feed ourselves and our nine men for three weeks.

About the mosquitoes and tiny dark blood-sucking flies I will say nothing, since no one who has had an experience of these interesting diptera in the interior of Lapland can adequately describe them; while those who have never been in these regions can never imagine what they have missed. I may, however, remark that even when the light is at its best the wearing of a veil is by no means conducive either to collecting or to good observation.

The scarcity of birds in this country greatly disappointed us. During the first two-thirds of our journey the country might be said to consist half of lakes and rivers, and half of pine-forest, with here and there a marsh. The lakes and rivers, although often dotted with islands, were singularly devoid of bird-life, while the interminable pine forests were nearly as destitute. Even the marshes, few and far between, were disappointing. Often we trudged six or eight miles to some marsh of which the Lapps had told us, and after tramping over it the whole day would see nothing but a couple of Whimbrel, a Wood-Sandpiper, and perhaps a Greenshank, although the marsh looked as if it ought to be a perfect paradise for birds. Only two of all the many marshes we explored were productive of a fair day's collecting.

The further north we proceeded the thinner the forests became, and there the birds increased somewhat, but they were nowhere abundant. It may be that in a normal season the country contains more birds than it did in 1899, but it is difficult to imagine that birds are ever more than thinly scattered over the interior of Russian Lapland.

As I have already mentioned, the lateness of the season caused us many delays, and consequently we were too late for eggs by the time we arrived in the interior. Before we left England and again at Vardö we debated as to whether it would not be better to work from north to south, but had we done so we should have fared worse; for, owing to the deep and soft snow, the country in the north is quite impassable even at the end of June. However, some consolation for the drawbacks of the season was derived in observing the effects it produced on birds. These effects were especially marked in the north. For instance, Willow-Grouse had not yet attained full summer plumage at the very end of July, and fresh eggs of many birds were to be found at the beginning of August, by which time the mosquitoes had died, the berries were ripe, new snow had already fallen on the hills, and another winter had almost commenced.

As this particular portion of Lapland does not seem to have been visited before by British ornithologists, I have endeavoured to make the list of the birds we observed more complete by comparisons with, and additions from, the volume on birds in the 'Beiträge zur Kentniss des Russischen Reiches' by the Russian ornithologist T. Pleske, published in 1886. This book deals with the ornithology of the whole of Russian Lapland, but in the following list only those birds are referred to which Pleske mentions as occurring on our route. Pleske traversed this route in 1880, and he quotes freely from the observations of several other Russian as well as Swedish and Finnish ornithologists, who worked in the same district between the years 1840 and 1880.

In quoting from this book I have placed in parentheses the name of Pleske's authority for any record not made by himself. In all other cases the record is Pleske's own.

TURDUS ILIACUS.

TURDUS PILARIS.

Both Redwings and Fieldfares were present along the whole route from Kandalax to Ekaterina. They were, however, very unequally distributed as regards numbers, being common in some places and rare in others. A nest of the Fieldfare on the shores of the Imandra contained young of about a week old on July 12th.

[Pleske records *Turdus musicus* from Kandalax and the Imandra (Mela), and from Kitsa, near Kola (Enwald).]

CINCLUS MELANOGASTER.

A pair of Dippers which we supposed to be of this species frequented the river at Kitsa, near Kola. Pleske records it from several localities on our route.

SAXICOLA ŒNANTHE.

A Wheatear was not seen until we reached Pulozero, about 45 miles south of Kola. From Pulozero northward these birds became very common. Pleske records them as very common in all parts.

RUTICILLA PHŒNICURUS.

The only Redstarts we saw consisted of a family of this species a few miles south of Kola. Pleske mentions it as rare.

CYANECULA SUECICA.

The Bluethroat was common in the south and the north, but rare in the centre, of our route.

PHYLLOSCOPUS TROCHILUS.

The Willow-Wren was common and breeding throughout. We shot several for identification, and searched carefully for *Phylloscopus borealis*, but could not discover it. A Willow-Wren's nest on the south shore of the Imandra contained six fresh eggs on July 8.

PARUS CINCTUS.

The Lapp Tit was common throughout the forest-region and was the only Tit we obtained or identified.

[Pleske records *Parus borealis* from near Kandalax (Lawrow) and from the Kola river, while Mr. Pearson records *P. camtschatkensis* from Petschenga. (Ibis, 1899, p. 525.)]

MOTACILLA ALBA.

A few pairs of White Wagtails were generally to be seen near every small Lapp settlement passed on our route.

MOTACILLA VIRIDIS.

The Grey-headed Wagtail was very common on many of the marshes in the centre of our route, but was absent in the south and north.

ANTHUS PRATENSIS.

From the Imandra northward the Meadow-Pipit was very common in suitable localities. It was especially common on marshes near the Pulozero.

ANTHUS CERVINUS.

We found the Red-throated Pipit near Ekaterina on the north coast only. Although Mr. Pearson took eggs at Petschenga on June 22nd, we found eggs only slightly incubated at Ekaterina on August 4th, which points to the rearing of a second brood notwithstanding the lateness of the season.

ANTHUS TRIVIALIS.

Only one specimen of the Tree-Pipit was obtained. The bird was a female, and was shot while singing at the top of a pine-tree near Bella Guba on the shores of the Imandra. Pleske records a few from Kandalax and the Imandra.

LANIUS EXCUBITOR.

The only Shrike seen was a bird of this species in some birch-scrub near Kola.

[Pleske has a few records of *Ampelis garrulus* from the Imandra and from Kandalax.]

MUSCICAPA ATRICAPILLA.

We saw only one pair of Pied Flycatchers, and shot the female, among some pine-trees on the south shore of the Imandra.

[Pleske records this species from the Imandra (Mela); also *M. grisola* from the Imandra and Kandalax.]

CHELIDON URBICA.

One House-Martin was observed at Kandalax, and a good many at Kola, where they were nesting on the houses.

COTILE RIPARIA.

The only examples of the Sand-Martin seen were a few near Kola.

[Pleske has a record of *Chrysomitris spinus* from Kitsa (Enwald).]

[According to Pleske, Middendorff, and Lawrow, *Passer domesticus* is not found in Kandalax; Mela, however, observed it there and mentions it as rare. T. Nitzén found one specimen in Kola. We did not see a single Sparrow anywhere on our route.]

FRINGILLA CŒLEBS.

One pair only of Chaffinches was observed near Kandalax. Pleske has a doubtful record of *F. cœlebs* from the same locality, and mentions that Nitzén killed a male in Kola.

FRINGILLA MONTIFRINGILLA.

The Brambling was common from Kandalax to Kola.

LINOTA LINARIA.

Mealy Redpolls were very common among the stunted birch-trees about Ekaterina. Of three nests found on August

5th, two contained fresh eggs and the third three young birds, just hatched, and one egg. On one of the nests with eggs we found the hen bird dead. The bird had evidently died "egg-bound," which is probably a rare occurrence in wild birds.

We noticed a very remarkable variation in the size of the bills of the birds we shot. Of two males from the same little company, one had a large bill, the other a small bill. Two other males had large bills. Of four females shot, only one had a large bill, the others having very small bills, much smaller, indeed, than the smallest of the males.

These birds were all shot in the same locality and within a few days of each other, and the variation in the size of the bills would seem, therefore, to be individual, and not seasonal or dietary.

We obtained a specimen of *L. linaria* at Elvenaes on the Syd-Varanger in June; about 60 miles east of this point, at Petschenga, in July of the same year, Messrs. Pearson obtained *L. exilipes* only (Ibis, 1899, p. 526); about 60 miles east of Petschenga we obtained in August, at Ekaterina, *L. linaria* only; while about 150 miles east of Ekaterina the Pearson expeditition in June 1895 obtained at Lake Ukanskoe *L. exilipes* only. (Ibis, 1896, p. 208.)

[Pleske records *Pyrrhula major* from Kandalax (Mela).]

PINICOLA ENUCLEATOR.

The Pine-Grosbeak was not common in the pine-forests, but we found it much more plentiful among the birches at Kola beyond the region of pine. Pleske also found it among the birches near Kola as well as in the pine-forests further south.

[Pleske has records of *Loxia curvirostra* at several points on our route, and a record of *L. pityopsittacus* from near Kandalax (Enwald).]

EMBERIZA CITRINELLA.

The Yellow Bunting was fairly common from Kandalax to Pulozero, *i. e.* within the pine-region, north of which we did not observe it.

EMBERIZA SCHŒNICLUS.

We identified the Reed-Bunting first at Raz-Navolok, near the northern end of the Imandra Lake. From this point to Kola it was met with rather frequently.

PLECTROPHENAX NIVALIS.

CALCARIUS LAPPONICUS.

Snow-Buntings and Lapland Buntings were seen at Ekaterina only, and were very uncommon there.

[Pleske records *Alauda arvensis* and *Otocorys alpestris* from near Kola.]

PERISOREUS INFAUSTUS.

Siberian Jays were very common from Kandalax to Kola, and usually acted as our scavengers, hopping about when the camp was asleep and seizing upon any tit-bits to be found.

PICA RUSTICA.

We saw two or three Magpies at Kandalax, but nowhere else.

CORVUS CORNIX.

We found the Hooded Crow nowhere common, but observed a few from Kandalax to the middle of the Imandra and also near Kola.

CORVUS CORAX.

We saw Ravens near Ekaterina only. Pleske records this species from the Imandra, Kolozero, and Kandalax.

[Pleske records *Cypselus apus* from Kandalax (Mela and Enwald).]

PICOIDES TRIDACTYLUS.

The Three-toed Woodpecker was very common from Kandalax to Kola, and was the only Woodpecker we saw. Twice we disturbed birds from apparently suitable nesting-holes, but in each case there were neither eggs nor young, although the bird behaved as if our discovery of its retreat was of some importance.

[Pleske records *Dryocopus martius* from Kandalax (Mela); also *Picus minor*, one shot by Lieut. Sandeberg near Kitsa on June 3rd, 1877, and another shot by Lawrow on Aug. 26th, 1880, near Kandalax.]

CUCULUS CANORUS.

The Cuckoo was common from Kandalax to Pulozero.

SURNIA ULULA.

The only Owl we saw during the whole of our journey was a single bird which probably belonged to this species. Pleske found it common at Raz-Navolok, on the Imandra, and north of that point.

[Pleske records two specimens of *Asio accipitrinus* from near Kandalax (Lawrow); also *Nyctala tengmalmi* and *Bubo ignavus*, from Kandalax (Mela).]

ARCHIBUTEO LAGOPUS.

The Rough-legged Buzzard was met with here and there throughout our route.

HALIAËTUS ALBICILLA.

We saw several White-tailed Eagles at Kandalax and one at Ekaterina, and climbed up to an immense, but empty, nest said to belong to this species, at the top of a pine-tree near Kandalax.

FALCO ÆSALON.

A couple of Merlins, flying about an open heathy patch of country near Raz-Navolok, Imandra, were the only Hawks we identified. The scarcity of all Falconidæ was remarkable.

We did not see a sign of the Osprey. Writing in 1886 Pleske considered it a common breeding-bird in Russian Lapland, and himself observed it at Kandalax and on the Imandra.

[Pleske records the following from the district :—*Astur palumbarius* from the Imandra (Sandeberg), Kola Bay (Pleske), and Kandalax (Mela); *Accipiter nisus* from Kandalax (Sandeberg); and *Falco gyrfalco* from Kola.]

PHALACROCORAX CARBO.

Fairly common on the coast, both at Kandalax and at Ekaterina. Some nests in a cliff near Ekaterina contained young on August 4th.

[Pleske records *Anser segetum* and *Cygnus musicus* (Mela) from near the Imandra, and was told by the Lapps that *A. segetum* bred there. We were also told by the Lapps on the Imandra that Geese were common and Swans not rare. We were guided to a large marsh where these birds were supposed to breed, but notwithstanding a careful search we never saw a sign of Goose or Swan.]

QUERQUEDULA CRECCA.

We saw only one Teal during our journey. This bird was in a marsh near Pulozero, and had some 10 or 12 young ones (July 22nd).

CLANGULA GLAUCION.

Golden-eyes were common on all the lakes and rivers from Kandalax to Kola.

HARELDA GLACIALIS.

We saw a few Long-tailed Ducks on the coast at Kandalax and also at Ekaterina, but none were seen inland.

SOMATERIA MOLLISSIMA.

Eiders were fairly common on the coast at Kandalax and at Ekaterina.

ŒDEMIA FUSCA.

ŒDEMIA NIGRA.

The Velvet and Common Scoters were very common throughout our route. We found nests and eggs of both species; the Velvet Scoter was perhaps the commoner bird. We counted 20 males in a flock on a small lake in a marsh on July 22nd, and found one near the edge of the lake. It seems hardly possible that each of the 20 males had a mate with a nest in the vicinity.

MERGUS SERRATOR.

Mergansers were quite the commonest Ducks on all the lakes over which which we passed.

[Of Ducks which we did not observe, Pleske records *Anas boscas* (Lawrow, Sahlberg, and Malmberg) from near Kandalax; *Dafila acuta* as fairly common in all parts; *Mareca penelope* as common and breeding along our route; *Fuligula* *cristata* from Kandalax (Mela) as well as from near Kola (Pleske); *Mergus merganser* (Lawrow and Mela) and *Mergus albelius* (Lawrow) from Kandalax.]

LAGOPUS ALBUS.

The Willow-Grouse was fairly common all along our route. Two male birds shot near Kola on July 27th had a number of white feathers on the underparts, and a few on the back and wing-coverts. At this time of year one would expect the Willow-Grouse to be attaining its winter plumage; but on examination the very opposite was found to be the case with these two birds, which had not yet attained their summer plumage. All the white feathers were clearly old feathers of the winter before. In the far north I believe Willow-Grouse often retain part of their winter plumage during the whole summer, but these two birds were in full moult, and the new feathers, which were sprouting all over the body, were all summer feathers. The toes were not altogether bare of feathers and the claws were exceedingly long. No doubt the lateness of the season accounted for the strange state of the plumage of these birds, but how long would they retain their summer plumage? A week after we shot these birds new snow had fallen on the hills and the autumn had commenced. On July 29th, at Kola, we found four broods of but a few days old.

[Pleske records *Lagopus mutus* from the mountains near the Imandra (Sahlberg and Malmberg) and Middendorff from the neighbouring districts.]

BONASA BETULINA.

The only specimen of the Hazel-Grouse we saw was shot near Bella Guba on the Imandra. Pleske considered its occurrence so far north as the Imandra as uncertain.

TETRAO UROGALLUS.

Capercaillie were common from Kandalax to Pulozero, north of which we did not observe them. We found chicks of a day or two old on July 24th.

[Pleske records *Tetrao tetrix* from Kandalax and the Imandra, and gives the Imandra as the northern limit of the bird. Near Kola I put up in thick birch-scrub a large dark bird, which was certainly not a Capercaillie, but by its flight and general appearance seemed to be a Blackcock.]

CHARADRIUS PLUVIALIS.

On all the marshes from the Imandra to Ekaterina the Golden Plover was met with, and often very plentifully. We found eggs much incubated on July 15th.

ÆGIALITIS HIATICULA.

Ringed Plovers were fairly common at Kandalax, along the shores of the Imandra, and at Kola.

EUDROMIAS MORINELLUS.

There were a few Dotterels on the stony hills about Ekaterina, but we saw them nowhere else on our route. The young of a brood found on August 3rd were still partially covered with down and could scarcely fly.

STREPSILAS INTERPRES.

A few Turnstones inhabited the islands in Kandalax Bay. A nest under a stone a few yards from the water contained four fresh eggs on July 6th. We saw a small flock in Kola Bay on July 29th.

HÆMATOPUS OSTRALEGUS.

Oyster-catchers were common and breeding on the islands in Kandalax Bay. We also saw a few on the shores of the Kola Fjord.

PHALAROPUS HYPERBOREUS.

A couple of Red-necked Phalaropes, shot on July 16th on a marsh near Raz-Navolok on the Imandra, were perhaps breeding. A few were also seen in Kola Bay.

GALLINAGO CŒLESTIS.

A couple of Snipe which must have belonged to this species inhabited a marsh near Raz-Navolok. We were, however, unable either to shoot the birds or to discover their eggs or young.

[Pleske obtained one specimen near Kola, and records it from Kandalax (Mela).]

LIMICOLA PLATYRHYNCHA.

The Broad-billed Sandpiper seems to be very rare between Kandalax and Ekaterina. Pleske has no record of it. We found a pair on a marsh near Raz-Navolok, and shot single birds on two marshes near the Pulozero. One of the latter shot on July 22nd, to judge from its actions, certainly had eggs or young, and an empty nest in some moss had perhaps contained them.

[Pleske records *Tringa alpina* from near Kandalax (Lawrow).]

TRINGA TEMMINCKI.

A number of Temminck's Stints were frequenting a piece of marshy land quite close to Kola on July 28th, and a week later we found a few here and there on the small marshes near Ekaterina.

MACHETES PUGNAX.

Reeves were common on several of the marshes near the Imandra and the Pulozero, but we neither saw nor obtained a single Ruff. We noticed that the legs of the Reeves varied considerably in colouring, from greenish-yellow to bright lemon-yellow.

TRINGOIDES HYPOLEUCUS.

Common Sandpipers were fairly numerous on nearly all the lakes and rivers from Kandalax to within four miles of Kola.

TOTANUS GLAREOLA.

On every marsh, and on almost every bit of marshy land, between Kandalax and Kola the Wood-Sandpiper was to be found. This bird seemed to me to take the place of the Redshank on our home marshes and that of the Stilt in the Spanish marshes, in its only too successful endeavours to annoy the intruder.

TOTANUS CALIDRIS.

We saw a few Common Redshanks in Kola Bay and near Ekaterina, but nowhere else on our route.

[Pleske observed one specimen at Zasheech, and saw several broods near Kola.]

TOTANUS FUSCUS.

A pair of Dusky Redshanks on a small marsh near Raz-Navolok, on July 18th, were the first met with. We afterwards found a good many on several marshes near the Pulozero. These birds were invariably wild, and all those we shot were males.

Doubtless we were too late for eggs, and after prolonged searching we had to relinquish the idea of finding either eggs or young. A pair which I watched amid a swarm of mosquitoes for an hour or more were exceedingly wary. Perching on the tops of the pine-trees, they kept up an incessant rattle of alarm whenever I was in view. This alarm-cry was composed of a single note very rapidly and loudly repeated a number of times, and was uttered both on the wing and when perched. When I was in hiding the birds became silent, but the slightest movement on my part was signalled by the alarm "rattle." The call-note of the bird is a plaintive pipe, somewhat like that of the Golden Plover, but sharper.

[Pleske obtained young birds near Kola on August 12th, and saw three birds at Zasheech on July 16th, 1880.]

TOTANUS CANESCENS.

Like the Wood-Sandpiper, the Greenshank was to be found, a pair here and there, on nearly every piece of marsh from Kandalax to Kola. The birds were invariably wild and exceedingly difficult to approach. Chicks of about a week old were found on July 22nd near the Pulozero.

LIMOSA LAPPONICA.

A pair or two of Bar-tailed Godwits were found on most of the larger marshes near the Imandra and the Pulozero, and we also saw a small flock of mature birds in Kola Bay on July 29th. On July 16th and again on July 22nd we found broods of four each, of about a week old. In each case the young ones seemed to be attended only by the male bird, which was very bold and often swooped straight over our heads and then retired to the top of a pine, calling loudly all the while. In one case the male bird tried to entice us away from the young, almost exactly after the fashion of a Ringed Plover. Unlike Mr. Popham, who met with "no two pairs occupying the same district while nesting" (Ibis 1897, p. 105), we found two pairs on the same marsh within 300 yards of each other. The nestlings, which were covered with down, with the primary-quills just appearing, had the following colouring of the soft parts :—Legs and feet light slate-blue; bill dark slate-colour; iris hazel. The stomachs contained small beetles, flies, and green leaves.

NUMENIUS PHÆOPUS.

A pair or two of Whimbrels were to be seen in every suitable place from Kandalax to Ekaterina, and on many of the marshes they were numerous.

STERNA MACRURA.

The Arctic Tern was present on all the lakes and rivers from Kandalax to Ekaterina. A considerable colony was evidently breeding on an island in a small lake on a marsh near the Imandra.

LARUS CANUS.

Common Gulls were fairly numerous in Kandalax Bay, and we saw a few pairs on most of the lakes from there to Kitsa. At Kitsa a single bird frequented the river, and there were a few in the Kola Fjord. A small colony on a marsh near Ekaterina evidently had young.

LARUS ARGENTATUS.

We observed Herring-Gulls in Kandalax Bay and in the Kola Fjord. We also saw a good many on the Imandra, but could not discover whether they were breeding or not. A small colony seemed to be breeding in company with the previous species on a marsh near Ekaterina.

LARUS FUSCUS.

A few Lesser Black-backed Gulls were seen on the Imandra and the Pulozero, and one at Kitsa, while the bird was not uncommon in the Kola Fjord.

LARUS MARINUS.

The Great Black-backed Gull was seen in the Kola Fjord.

We observed neither this nor the preceding species in Kandalax Bay, but Pleske records both from there.

Larus glaucus.

We saw two or three of these Gulls in Kandalax Bay on July 4th and 5th. We also observed a few of them among the ice in the White Sea near the mouth of the Ponoi river, on the east coast of Russian Lapland.

Rissa tridactyla.

The Kittiwake was fairly common in the Kola Fjord.

Stercorarius crepidatus.

A few Arctic Skuas were seen near Ekaterina. At Vardö on June 16th a pair (light male, sooty female), which had eggs on a bare patch of ground surrounded by deep snow, were accompanied by a dark bird at which they were continually swooping, as though with the intention of driving it away. We were unable to shoot this third bird, but at Ekaterina on August 3rd we found two pairs of light-coloured birds, each accompanied by a third dark bird, which was treated in the same way as the one at Vardö. On one of these dark birds being shot, it was found to be an immature bird of apparently the year before, since it still retained several rufous-edged feathers, had a barred breast and a pointed tail. Is it possible that pairs of Arctic Skuas are sometimes accompanied during the breeding-season by a young one of the year before? On the other hand, we found near Ekaterina three birds of the year together unaccompanied by any adult bird.

Stercorarius parasiticus.

A pair of Long-tailed Skuas, shot near Ekaterina, were the only ones seen. The stomach of one contained a mouse; that of the other held seeds, probably those of the crowberry.

Uria grylle.

Black Guillemots were common in Kandalax Bay and at the mouth of the Kola Fjord.

Colymbus glacialis.

On a small lake in a marsh near the Imandra, which we visited on July 15th, we observed a large Diver, which was thought to belong to this species. The difference in the size of this bird and two Black-throated Divers swimming near it at the same time was remarkable. Its bill was certainly black, and therefore the bird could not have been *C. adamsi.* Pleske says that Middendorff shot a specimen of *C. glacialis* near the mouth of the Kola Fjord, in September 1840.

COLYMBUS ARCTICUS.

COLYMBUS SEPTENTRIONALIS.

The Black-throated and Red-throated Divers were perhaps equally common on the small lakes from Kandalax to Ekaterina. A Red-throated Diver shot near Ekaterina from fresh eggs on August 1st proved to be a male, and although we hid up near the nest for several hours in the hope of getting the mate, she never came back to the nest, and only once flew anywhere near us.

[Pleske records a few examples of *Podicipes griseigena* from near Kandalax.]

XXVIII.—*On further Collections of British-East-African Birds.* By SYDNEY L. HINDE, M.D. *With Notes by* R. BOWDLER SHARPE, LL.D.

SINCE my return to British East Africa I have been stationed in Masailand, either at N'gong, or Nairobi, or out on the neighbouring plains. In these localities I have met with examples of a few species to be added to my former list of the birds of Machako's (*cf.* Ibis, 1898, p. 576).

The neighbourhood of N'gongo Bagas is hilly, dense bush and open grassland alternating. The station is about 6000 feet above the sea-level. The Athi river, where some of the birds were obtained, crosses a bare plain, and the nearest bush-country or forest is about 20 miles away; patches of mimosa and occasional fig-trees and rank grass grow on the river-banks.

1. PERISSORNIS CARUNCULATUS (Vieill.).

Dilophus carunculatus Hinde, Ibis, 1898, p. 576.

Perissornis caruncululatus Oberh. Proc. Acad. Nat. Sci. Philad. 1899, p. 216.

a, ♂ juv. N'gong, Masailand, Nov. 28, 1898.—Bare skin round the eye greenish yellow.

[Mr. Oberholser has pointed out (Proc. Acad. Nat. Sci. Philad. 1899, p. 216) that the generic name *Dilophus* of Vieillot (1816) is preoccupied in Diptera. It seems to me a great pity that this well-known name should be overthrown, but I see no reason to dispute the accuracy of Mr. Oberholser's conclusions.—R. B. S.]

2. Oriolus rolleti Salvad.

Oriolus larvatus (nec Licht.); Sharpe, Ibis, 1891, p. 243.

a, ♀ ad. N'gong, Dec. 10, 1898.

b, c, ♂ ♀ ad. Athi river, Sept. 15, 1899.

When the wild figs are ripe, dozens of these birds may be seen in a single tree, consorting with *Lamprocolius chalybeus* and *Oriolus galbula*.

3. Oriolus galbula Linn.

Oriolus galbula Sharpe, Cat. B. Brit. Mus. iii. p. 191 (1877).

a, ♂ juv. N'gong, Dec. 1, 1898.

b, ♂ juv. Nairobi, June 1, 1899.

4. Pyromelana xanthomelæna (Rüpp.); Sharpe, Ibis, 1891, p. 248.

Nos. 130, 131, ♂ juv. N'gong, Sept. 20, 1898.

Shot out of a flock.

5. Heterhyphantes reichenowi (Fischer); Hinde, Ibis, 1898, p. 578.

a, b, ♀ ad. et ♂ juv. N'gong, Sept. 28, 1898.

This species breeds in October and May.

6. Hyphantornis spekei Heugl.; Hinde, Ibis, 1898, p. 578.

No. 163, ♀ ad. Athi river, Sept. 7, 1899.

A very common bird on the Moa and Lemoyo hills, where it breeds.

7. Passer ruficinctus Fischer & Reichen.; Hinde, Ibis, 1898, p. 578.
a, ♂ ad. N'gong, Dec. 18, 1898.
b, ad. N'gong, Jan. 1899.

The habits of this species are similar to those of the European House-Sparrow.

8. Serinus affinis (Reichen.); Sharpe, Ibis, 1899, p. 620.
Crithagra striolata affinis Reichen. Auk, xiv. p. 157.
a, ♀ ad. N'gong, Nov. 12, 1898.
No. 146, ♀ ad. N'gong, Jan. 18, 1899.

Very common in this district.

9. Mirafra africana Smith; Sharpe, Ibis, 1891, p. 260.
a, *b*, ♂ ad. Machako's, Aug. 1898.

Very common in the open grass-country.

10. Pyrrhulauda leucoparia (Fischer & Reichenow, J. f. O. 1884, p. 55); Hinde, Ibis, 1898, p. 579.
a, *b*, ♂ ad. Machako's, June 5, 1898.
c, ♀ juv. ,, Aug. 6, 1898.
d, *e*, ♀ ad. Athi river, Sept. 12, 1899.

Seen in large flocks at dusk on old camp-grounds, roads, or grassy plains.

[The young bird is brown, like the adult female, but is mottled with ashy margins to the feathers, as in the Larks of the genus *Alauda*; these margins are very distinct on the wing-coverts, and the edges of the primaries and tail-feathers are decidedly rufous. The feathers of the chest and flanks are mottled with dusky sub-terminal spots.—R. B. S.]

11. Motacilla campestris Pall.; Sharpe, Cat. B. Brit. Mus. x. p. 510, pl. vi. figs. 1, 2 (1885).
a, ♀ ad. N'gong, Jan. 12, 1899.

12. Anthus rufulus (Vieill.); Hinde, Ibis, 1898, p. 579.
a, ♂ ad. Machako's.

Common in the native gardens on the lower parts of the hill-sides.

13. Parus albiventris Shelley; Sharpe, Ibis, 1891, p. 595.
a, *b*, 155, ♂ ♀ ad. Athi river, Sept. 7, 1899.

Common in the neighbourhood of swamps and river-beds where there is some timber, such as mimosa, in proximity to the water. Breeds in April and November.

14. Nectarinia kilimensis Shelley; Sharpe, Ibis, 1891, p. 591.

a, ♂ ad. N'gong, Masailand, Dec. 10, 1898.
b, ♂ ad. ,, ,, Dec. 10, 1898.
c, ♀ ad. ,, ,,

A common bird in the hill-country where the jungle is thick.

15. Cinnyris falkensteini Fischer & Reichen.; Hinde, t. c. p. 580.

No. 151, ♂ ad. Athi river, Sept. 7, 1899.

Occasional specimens of this species may be seen wherever there is low scrub in Ukambani, but it is particularly fond of mimosa-trees. It is not so common as *Cinnyris æquatorialis*.

[Professor Reichenow has recently (Orn. M.B. vii. pp. 170, 171) given a review of the species belonging to the *C. venusta* group.

He points out that the true *C. venusta* from Senegambia is distinguished by its whitish-yellow belly and by the coppery gloss on the upper surface.

The true *C. affinis*, from Abyssinia, has the belly clear yellow, and has a green upper surface, on which, however, I can detect a slight shade of bronze, and even on one or two feathers a sub-terminal gloss of steel-blue.

Prof. Reichenow says that a male from Teita agrees entirely with Abyssinian specimens. I notice that on the throat there is more of a coppery-green shade than there is in specimens from more southern localities, where the gloss tends towards steel-blue or purplish blue.

A second race, *C. stierlingi*, is described by Prof. Reichenow from Uhehe, and is said to have the belly a little darker than in typical *C. affinis*, with the green of the upper surface somewhat blending into blue.

Cinnyris niassæ is another race, with the belly a little darker than in typical *C. affinis*, the upper surface pure green, and the wings somewhat shorter and bill perceptibly longer. I have males before me from Nyasaland, and find that the difference in the length of the bill is infinitesimal, but the belly is decidedly of a deeper yellow than in true *C. affinis*, while the throat does not show the green of that species; there is also much more purple on the forehead in the Nyasaland bird. This race seems to have a much darker and more olive-coloured female.

Cinnyris angolensis is another race described by Prof. Reichenow from Angola, in which the belly is said to be a little darker than in *C. affinis*, with the upper surface pure green and with shorter wings and tail.

Cinnyris cyanescens is described by Prof. Reichenow as a new species from Zanzibar and Mpapwa. The belly is yellow, the upper surface with a blue-green gloss, the edges of the feathers in part inclining to violet-blue. A specimen in the Jackson collection from Ukambani appears to belong to this race, which is with difficulty to be separated from some of the Nyasaland specimens (*C. niassæ*), but the bill is decidedly smaller. How does *C. cyanescens* differ from *C. stierlingi*?

C. falkensteini has the middle of the belly orange-yellow and the pectoral tufts orange-red, the upper surface glossed with bluish green, but in general effect not so blue as in *C. cyanescens*. The habitat is given as Naivasha, Loita, Kilimanjaro, and Sotik.

Lastly, Prof. Reichenow describes a new species from Karagwe as *C. igneiventris*, with the upper surface as in *C. falkensteini*, but with the middle of the belly orange-red and the pectoral tufts scarlet. I am unable to judge of the specific value of this last race, as I have no specimens from Karagwe before me. Of *C. falkensteini* I have examined adult males from Kilimanjaro, Machako's, Athi river, Lake Naivasha, Elgon, Sotik, and Nandi. There are considerable differences: some specimens from Kilimanjaro have the belly entirely yellow, and are scarcely distinguishable from *C. niassæ*, while other specimens have deep orange abdomens. The green or blue gloss of the upper surface varies in individuals from the same locality, and the age of the feather seems to me to have something to do with this condition of the plumage.—R. B. S.]

16. Cinnyris æquatorialis Reichen. Orn. M.B. vii. p. 171 (1899).

Cinnyris acik (nec Antin.); Sharpe, Ibis, 1891, p. 592.

a, ♂ ad. Athi river, Aug. 5, 1899.

b, *c*, 148, 154, ♂ ad. et imm. Athi river, Sept. 7, 1899.

[This race of *C. acik*, which has recently been described by Prof. Reichenow, seems to me to be easily distinguishable by its larger size.—R. B. S.]

17. Phylloscopus trochilus (Linn.); Sharpe, Ibis, 1892, p. 152.

a, ♀ ad. N'gong, Masailand, Dec. 18, 1898.

18 Euprinodes hildegardæ Sharpe.

Euprinodes hildegardæ, Sharpe, Bull. B. O. C. x. p. xxviii (1899).

Nos. 160, 164, ♂ ♀. Athi river, Sept. 7, 1899.

These specimens were shot on the edge of a little swamp close to my camp on the Athi river. During six weeks spent in this neighbourhood I saw only one other specimen, which unfortunately I failed to pick up when it fell into the river.

[The pair of birds obtained by Dr. Hinde appear to me to belong to a new species of *Euprinodes*, which I have proposed to call, after Mrs. Hinde, *Euprinodes hildegardæ*. It may be characterized as follows:—

E. similis *E. schistaceo* Cass. (*cf.* Sharpe, Cat. B. vii. p. 142), sed rectricibus externis tantùm albo marginatis nec omninò albis, pectore pallidè cervino, distinguendus. Long. tot. 4·0 poll., culm. 0·4, alæ 1·8, caudæ 1·75, tarsi 0·6.

So far as I can judge, the nearest ally to this species is the West-African *Euprinodes schistaceus* of Cassin from Gaboon, of which I have never seen an example. It is of a dark ashy grey above, with the lores and underparts of a pale isabelline-buff tint, the throat somewhat whiter. The tail-feathers are blackish brown, the outermost being the shortest and having the tip and the *whole* outer web white; the penultimate feather has the tip white, as well as a narrow edging to the outer web; the third feather has simply a white spot at the tip.—R. B. S.]

19. Cisticola subruficapilla (Smith).

No 157, ♂. Athi river, Sept. 15, 1899.

This species lives in the long grass or low scrub on the plains. It is one of the commonest birds in the Ukamba Province and one of the tamest.

[Agrees with a specimen obtained by Mr. F. J. Jackson at Kibwezi.—R. B. S.]

20. Cisticola hindei Sharpe; Hinde, Ibis, 1898, p. 580, pl. xii. fig. 2.

a–e, ad. Machako's, May 20, 1898.

f, ad. Machako's, Aug. 4, 1898.

g, ad. Athi river, Aug. 1899.

[The specimen killed in August appears to be in full winter plumage with striped head, while the males procured in May have the uniform crown of the summer plumage.—R. B. S.]

21. Cisticola erythrogenys (Rüpp.); Sharpe, Cat. B. Brit. Mus. vii. p. 275 (1883).

a, ♂ ad. Machako's, June 5, 1898.

b–d, ♂ ad. N'gong, Nov. 1898–Jan. 1899.

22. Myrmecocichla cryptoleuca Sharpe, Ibis, 1891, p. 445; 1892, p. 163.

a, ♂ ad.; *b*, *c*, ♀ imm. N'gong, Masailand, Sept. 29, 1898.

[The adult female will probably be indistinguishable from the male. The two specimens sent by Dr. Hinde do not seem to be quite adult, as they have some rusty-brown feathers intermixed with the black plumage, probably evidences of immaturity. This seems to be a totally distinct species from *M. formicivora*, which is altogether a brown bird. —R. B. S.]

23. Crateropus hypoleucus Cab.; Sharpe, Ibis, 1892, p. 164.

a, ♀. Athi river, Sept. 18, 1899.

These noisy birds always seem to gather together in numbers of 20 or 30 in a bush. A wounded bird will throw itself on its back and fight with beak and claws like a Hawk.

24. Campicola livingstonei Tristr.; Sharpe, Ibis, 1892, p. 163.

a, ♂ ad.; *b*, ad.; *c*, ♀ ad. Machako's, Aug. 1898.

25. Pratincola axillaris Shelley; Sharpe, Ibis, 1892, p. 161.

a, ♂ ad.; *b*, ♀ ad.; *c*, ad. N'gong, Dec. 1898 and Jan. 1899.

26. Melittophagus sharpei Hartert, Bull. B. O. C. x. p. xxviii (1899).

Melittophagus cyanostictus Cab.; Hinde, t. c. p. 583.

a, b, ♂ ♀ ad. Athi river, Sept. 10, 1899.

27. Corythornis cyanostigma (Rüpp.); Sharpe, Cat. B. Brit. Mus. xvii. p. 163 (1892).

a, b, ♂ ♀ ad. Athi river, Aug. 5, 1899.

28. Caprimulgus frænatus Salvad.; Hartert, Cat. B. Brit. Mus. xvi. p. 533 (1892).

No. 165, ♂. Athi river, Sept. 16, 1899.

Common in river-beds, ravines, and all places where there is thick cover. This bird rarely perches or sleeps except on the ground.

[Compared with a specimen from Machako's in the Jackson collection and identified by Mr. E. Hartert. In the "key" to the genus *Caprimulgus* (t. c. p. 525) *C. frænatus* and *C. rufigena* are placed among the species which have no rufous collar; but this is a mistake, which is repeated in the same author's 'Tierreich' (p. 39).—R. B. S.]

29. Turacus hartlaubi Fisch. & Reichen.; Hinde, t. c. p. 581.

a, b. Nairobi forest, June 1898.

30. Melierax niger (Bonn. et Vieill.); Sharpe, Ibis, 1892, p. 535.

a, ♀ ad. Machako's, July 18, 1898.

31. Polyboroides typicus Smith; Shelley, B. Africa, i. p. 153 (1896).

a, ad. N'gong, Oct. 1898.

Shot in the middle of the forest.

32. Serpentarius serpentarius (Miller); Shelley, B. Africa, i. p. 154 (1896).

Very common all over the open plains. Chief food, lizards and grasshoppers.

33. Anas sparsa Smith; Sharpe, Hand-l. B. i. 216.

a, ad. N'gong, October 1898.

This Duck can be seen on any of the small swamps or rivers in the Ukamba Province after the rains have begun in October till early in January.

34. Ibis æthiopica (Lath.); Shelley, B. Africa, i. p. 155 (1896).

a. Athi river, Sept. 1899.

A very rare visitor.

35. Balearica pavonina (Linn.); Shelley, B. Africa, i. p. 186 (1896).

Very common on the Nairobi river. Roosts on the bare trees at night in large flocks.

36. Eupodotis kori (Burch.); Shelley, B. Africa, i. p. 186 (1896).

a, ad. Athi river, Sept. 1899.

Shot by my wife with a rifle at 250 yards.

37. Oxyechus tricollaris (V.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 247.

No. 156, ♂ juv. Athi river, Sept. 12, 1899.

This bird arrives in large numbers with the October and April rains, and disappears as soon as the country is dry, though an occasional specimen may be seen on any large swamp or sheet of water all the year round.

38. Tringoides hypoleucus (Linn.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 456 (1896).

No. 11, ♀ ad. Athi river, Sept. 7, 1899.

39. Rallus cærulescens Gm.; Sharpe, Cat. B. Brit. Mus. xxiii. p. 25 (1894).

a, ♂ ad. N'gong, Masailand, Nov. 30, 1898.

40. Crex crex (Linn.); Sharpe, Cat. B. Brit. Mus. xxiii. p. 82 (1894).

a, ♀ imm. Nairobi, Masailand, June 2, 1899.

I have seen occasional specimens of this species in November and April.

41. Tympanistria tympanistria (Temm.); Salvad. Cat. B. Brit. Mus. xxi. p. 504 (1893).

No. 143, ♀. N'gong, Dec. 29, 1898.

[The presence of some rufous secondaries, mottled with black vermiculations, indicates that the specimen is immature, and the forehead and chest are grey, with ochreous margins to the feathers of the latter part.—R. B. S.]

42. Francolinus hildebrandti Cab.; Sharpe, Ibis, 1892, p. 552.

a, ♂ ad. N'gong, Masailand, Nov. 30, 1898.

This Francolin is of much wider distribution than *F. schuetti*, and, along with *Pternistes infuscatus*, may be found both on the bare plains and in dense forest.

43. Francolinus schuetti Cab.; Ogilvie Grant, Cat. B. Brit. Mus. xxii. p. 170 (1893).

a, ♀ ad. N'gong, Masailand, Oct. 2, 1898.

Nesting. Bill and feet coral-red. Very common in jungle and in the farms adjacent to forest. I have never seen this species on the open bare plains.

XXIX.—*On the Ibises of the Genus* Theristicus.

By T. Salvadori, F.M.Z.S.

[Plates IX. & X.]

When Signor Festa and I were working together at the great Ecuadorian collection made by the former, we easily recognized that the specimens of the genus *Theristicus* collected by Festa at Vallevicioso, not far from the paramos of Cotopaxi, belonged to the distinct species which had been described by Graf von Berlepsch and M. Stolzmann under the name of *T. branickii* * from specimens collected at Junin, Maraynioc, and Pariayacu, on the highlands of Peru. On turning to the British Museum Catalogue I was much surprised to find that Dr. Sharpe † had failed to recognize *T. branickii* as a distinct species, under the impression that the differences of plumage relied on by the describers for the separation of *T. branickii* from *T. melanopis* were only those of age or season. Moreover, I soon found out that the synonymy and geographical ranges attributed by Dr. Sharpe to the two species *T. melanopis* and *T. caudatus* recognized by him, required revision.

In order to settle several questions concerning the species of the genus *Theristicus*, I addressed myself also to Dr. Finsch, requesting him to give me some information as regards the specimens in the Leyden Museum, which had been attributed by Dr. Schlegel ‡ to a single species, *T. melanopis*, while it appeared to me that they must clearly belong to two distinct species. Dr. Finsch took the opportunity of his researches to publish the result of his enquiries in a paper under the title "Ueber die Arten der Gattung *Theristicus* Wagl." §. Dr. Finsch also recognized in this paper that *T. branickii* was a species distinct from *T. melanopis*, and, besides that, described what he believed to be a new allied species under the name *T. columbianus*.

But it seems that both Dr. Sharpe and Dr. Finsch have ignored the very accurate notes by Graf von Berlepsch and M. Stolzmann on the synonymy and geographical distribution of *T. melanopis* and *T. caudatus*, published in their paper "Résultats des Recherches ornithologiques faites au Pérou par Jean Kalinowski" ||.

This is the present state of things as regards the species

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* Ibis, 1894, p. 404.

† Cat. B. Brit. Mus. xxvi. p. 23.

‡ Mus. des Pays-Bas, *Ibis*, p. 7.

§ Notes from the Leyden Museum, vol. xxi. pp. 23–26 (1899).

|| P. Z. S. 1892, pp. 322–388.

of the genus *Theristicus,* the subject of which I propose to treat in this paper.

As already stated, Graf von Berlepsch and M. Stolzmann, in their paper mentioned above, have treated of the differences between *T. melanopis* and *T. caudatus*, and of their geographical distribution. They have shown that the first species inhabits the southern and western parts of South America, from Magellania and Patagonia to the western side of the Andes in Chile and Peru as far north as Ica and Chorillos, while the other species inhabits the northern and eastern parts of South America from Cayenne and British Guiana westward to Venezuela and Colombia, and southward to Brazil, Paraguay, Uruguay, and the northern part of the Argentine Republic.

To the two species already mentioned must be added a third, *Theristicus branickii* Berl. et Stolzm., peculiar to the highlands of Peru and Ecuador, which, so far as we know at present, extends from Pitumarca, near Tinta, in Peru, to Vallevicioso in Ecuador.

Besides these, as already mentioned, Dr. Finsch has described quite recently a *Theristicus columbianus,* from a specimen contained in the Leyden Museum, received from the Parisian dealer Deyrolle, as coming from Colombia, but without any collector's name. Dr. Finsch observed that no species of the genus *Theristicus* was known from Colombia, previously to his publication; a statement not correct, as Berlepsch and Stolzmann in 1892 had already mentioned specimens of the genus *Theristicus* from Colombia as contained in the Berlepsch Museum, which had been identified with *T. caudatus.* Graf von Berlepsch has very kindly sent me for inspection these specimens, one of which is from Antioquia, and also two from Venezuela, collected by Mr. G. K. Cherrie at a place named Altagracia. These specimens from Colombia and from Venezuela do not at all show the characters attributed by Dr. Finsch to his *T. columbianus,* viz., the wing-coverts and the hidden base of the secondaries grey, instead of white, as in *T. caudatus,* to which species they certainly belong. Dr. Finsch, at my request, has very kindly sent me for inspection the type of his *T. columbianus*, which, as I had expected, turns out to be an immature specimen of *T. caudatus*, with the light band on the wings and the base of the secondaries not grey (as stated by Dr. Finsch), but dull whitish grey.

The specimens of the genus *Theristicus* which I have been able to examine, and which have led me to these conclusions, are the following:—

(1) THERISTICUS CAUDATUS.

1. Adult specimen from Cayenne received from the Paris Museum (*Mus. Taurin.*, Cat. no. 2888).

2. Female adult from Cara-huassi, Salta, September 1896 (*Dr. Borelli, Mus. Taurin.*, Cat. no. 11633).

3. Adult specimen received in exchange from the Turati Museum, as collected in Brazil (*Mus. Taurin.*, Cat. no. 9365).

4. Adult specimen, from Bogotá, Colombia (*Mus. Berlepsch*).

5. Immature specimen, apparently from Bogotá (*Leyden Museum*: TYPE of *Theristicus columbianus* Finsch).

6. Adult specimen from Antioquia in Colombia (*Mus. Berlepsch*).

7 & 8. Two adult specimens, one marked female, from Altagracia in Venezuela, obtained by Mr. George K. Cherrie, November 1897 (*Mus. Berlepsch*).

9. Adult male from Valle Grande in Bolivia, obtained by G. Garlepp (*Mus. Berlepsch*).

(2) THERISTICUS MELANOPIS.

1. Adult specimen from Chile (*Cav. Picollet, Mus. Taurin.*, Cat. no. 2885).

2. Adult specimen, no exact locality (*Mus. Taurin.*, Cat. no. 2895).

3. Adult male, Santiago, Chile, March 1867, from the Museum of Santiago, Voyage of the 'Magenta' (*Mus. Taurin.*, Cat. no. 8353).

(3) THERISTICUS BRANICKII.

1. Adult male, Pariayacu, Peru, 18 October, 1892 (*J. Kalinowski, Mus. Berlepsch,* SPECIM. TYPICUM).

2. Adult male, Vallevicioso, Paramo del Cotopaxi, July (*Dr. E. Festa*).

3. Adult male, Vallevicioso, July (*Dr. Festa*).

4. Adult male, Vallevicioso, July (*Dr. Festa*).

5. Immature male, Vallevicioso, July (*Dr. Festa*).

6. Adult female, Vallevicioso, July (*Dr. Festa*).

7 & 8. Young specimens, Vallevicioso, July (*Dr. Festa*).

Genus THERISTICUS Wagl.

	Type.
Theristicus Wagl. Isis, 1832, p. 1231 .	*Ibis melanopis* Lath.

Wagler gives the following characters of the genus *Theristicus* :—

> "*Rostrum* gracilius (quam in genere *Ibidis*) ; *pedes* breves, robusti ; *tarsus* validus, digiti intermedii longitudine incluso hujus ungue, antice scutellis hexagonis tectus, postice reticulatus ; *digiti* validi, breviusculi, teretiusculi ; *ungues* mediocres, validi, arcuati, illi digiti anterioris intermedii acie interna subinflata (integra) ; *acrodactyla* elevato-scutellata. *Ptilosis* : lora ac stria utrinque ad latus menti nuda ; *alæ* et *cauda* prælongæ, hæc cuneata, alas transcendens ; pilei ac colli plumæ longæ, laceræ. *Color* prædominans obscurus et dilutus, remiges et cauda metallici."

Dr. Sharpe has recently given the characters of the different genera belonging to the family *Ibididæ* ; those of the genus *Theristicus* may be summarized as follows :—

"Anterior aspect of tarsus reticulated, with numerous hexagonal scales ; inner secondaries ordinary, not ornamented ; head feathered ; lores bare, no fleshy wattle on centre of throat ; forehead feathered ; lores with some warty papillæ, region of eye bare ; sides of chin and upper throat bare ; no crest of dependent feathers on nape."

To these characters those of the colouring may be added, being very similar in all the species. General colour slaty grey, head and neck whitish buff ; upper part of the head rufous-chestnut; greater upper wing-coverts grey or white; bill black; feet red.

Hab. South America.

Key to the Species of the Genus Theristicus.

a. Gastræo toto nigro-schistaceo; pileo et macula lata in parte antica colli imi rufo-castaneis; tectricibus alarum majoribus albis; basi obtecta remigum secundariorum alba .... 1. *T. caudatus.*

b. Gastræo partim albicante; pileo tantum rufo-castaneo; collo toto albo, plus minusve fulvo tincto; pectore fascia transversa grisea ornato; tectricibus alarum majoribus griseis; remigibus secundariis omnino nigris.

  a'. Major, rostro longiore; tectricibus alarum griseis pallidioribus; pectore summo tantum albo-fulvescente, fascia grisea transversa ornato .... 2. *T. melanopis.*

  b'. Minor, rostro breviore et graciliore; tectricibus alarum griseis saturatioribus; pectore fascia grisea transversa ornato, et abdomine medio albis .... 3. *T. branickii.*

1. THERISTICUS CAUDATUS.

Curiçaca Marcgr. Hist. Nat. Bras. p. 191 (Pernambuco) (1648); Licht. Abhandl. Berl. Akad. 1816–17, p. 158 (=*Ibis albicollis*) (1819).

Courly à col blanc de Cayenne Daubent. Pl. Enl. viii. pl. 976 (1770).

Le Grand Courlis de Cayenne Buff. Hist. Nat. Ois. viii. p. 47 (1781).

Scolopax caudatus Bodd. Tabl. Pl. Enl. p. 57, n. 976 (1783).

White-necked Ibis Lath. Gen. Syn. iii. 1, p. 109, n. 6 (1785).

Tantalus albicollis Gm. S. N. i. 2, p. 653, n. 20 (1788); Lath. Ind. Orn. ii. p. 104, n. 6 (1790); Drapiez, Dict. Class. H. N. viii. p. 489 (1825).

Mandurria ó Curucáu Azara, Apunt. iii. p. 189, no. 362 (Paraguay) (1803).

La Mandurria ou Curacau proprement dit Sonnini, trad. d'Azara, Voy. iii. p. 217 (1809).

Ibis albicollis Vieill. N. D. xvi. p. 17 (1817); Dumont, Dict. Sc. Nat. xxii. p. 425 (1821); Wied, Reise nach Bras. ii. p. 169 (1821); Vieill. Enc. Méth. iii. p. 1146 (1823); Steph. in Shaw, Gen. Zool. xii. 1, p. 18 (1824); Less. Man. ii. p. 255 (1828); Wied, Beitr. Naturg. Bras., Vög. iv. p. 693 (Bahia, Rio Grande do Sul) (1831); Temm. Pl. Col. Tabl. Méth. p. 95 (1839); Cab. in Schomb. Reise Brit. Guiana, iii. p. 757 (Br. Guiana) (1848); Burm. La Plata-Reise, ii. p. 510 (Paraná, Mendoza, Tucuman) (1861).

Tantalus mandurria Lath. apud Drapiez, Dict. Class. H. N. viii. p. 490 (1825).

Ibis melanopis Wagl. (nec Gm.), Syst. Av. Gen. *Ibis*, sp. 17 (descr. huj. spec., sed excl. syn. nonnull.) (1827); Hartl. Syst. Verz. Ges. Mus., Vög. p. 111, no. 4 (Brasilien) (1844); Gerbe, Dict. Univ. H. N. vii. p. 7 (part., habitat, nec descr.) (1846); Burm. (nec Gm.), Syst. Uebers. Th. Bras. iii. p. 421 (syn. emend.) (1856); Schleg. Mus. P.-B., *Ibis*, p. 7 (part. nos. 3, 4, Brésil, Cayenne) (1863); Burm. J. f. O. 1860, p. 265, n. 233 (Mendoza, Paraná, Tucuman); Reinh. (nec Gm.), Vid. Meddel. Nat. For. 1870, p. 22 (Paracatú, Rio S. Francisco, Minas Geraes); Gieb. Thes. Orn. ii. p. 386 (part.) (1875); Ernst, Cat. Aves Mus. Caracas, p. 42 (Zulia et Orinoco) (1887).

Ibis alba (errore) Less. Tr. d'Orn. p. 567, n. 7 (nec n. 5, et syn. emend.) (1831).

Theristicus melanopis (part.) Wagl. Isis, 1832, p. 1232; Bp. Consp. Av. ii. p. 155, n. 1 (part., Paraguay) (1855); Scl. et Salv. Nom. Av. Neotrop. p. 127 (part.) (1873); Allen, Bull. Essex Inst. viii. p. 82 (Santarem) (1876); Berl. J. f. O. 1877, p. 124, n. 276 (Paraguay); Durnf. Ibis, 1880, p. 424 (Rio Pasaje, Salta, June); Barrows, Auk, 1884, p. 272 (Lower Uruguay, April); Sharpe, Cat. B. xxvi. p. 21 (part., Brazil), p. 265 (Rio Pilcomayo) (1898).

Geronticus melanopis Hartl. (nec Gm.) Index Azar. Apunt. p. 23, n. 362 (syn. emend.) (1847).

Geronticus caudatus G. R. Gr. Gen. B. iii. p. 566, n. 14 (1847).

Theristicus albicollis Licht. Nomenc. Av. p. 91 (Brasilien)

(1854); Bp. Compt. Rend. xl. p. 725, n. 173 (1855); id. Consp. Gen. Av. ii. p. 155, n. 2 (Brasil, Cayenne) (1855).

Geronticus albicollis Scl. P. Z. S. 1864, p. 728 (Zool. Gardens); Pelz. Orn. Bras. p. 307 (Itararé, Jaguaraiba, Tayacocca, Murungaba, Araguay, Zamambaya, Caicara, Matto Grosso) et p. 457 (1868–71).

Geronticus (Theristicus) caudatus G. R. Gr. Hand-list, iii. p. 40, no. 10234 (S. America) (1871).

Theristicus caudatus Elliot, P. Z. S. 1877, p. 498 (partim); Scl. P. Z. S. 1879, p. 827 (Zool. Gard.), 1882, p. 794 (Zool. Gard.); id. List Vert. An. (8) p. 411 (1883); Salv. Ibis, 1886, p. 171 (ex Schomb.); Scl. et Huds. Arg. Orn. ii. p. 110 (part.) (1889); Graham Kerr, Ibis, 1891, p. 270 (R. Pilcomayo), 1892, p. 145 (December, resident on the Lower Pilcomayo); Berl. et Stolzm. P. Z. S. 1892, p. 392; Allen, Bull. Am. Mus. N. H. v. p. 150 (Matto Grosso) (1893); Berl. et Stolzm. Ibis, 1894, p. 405 (critical); Koenigsw. Orn. Paulista, J. f. O. 1896, p. 389 (S. Paulo); Scl. List Vert. An. p. 427 (1896); Salvad. Boll. Mus. Tor. no. 292, p. 31 (Salta) (1892); Sharpe, Cat. B. xxvi. pp. 23, 265 (British Guiana) (1898); Ihering, Av. Est. S. Paulo, p. 385 (1899); Finsch, Not. Leyd. Mus. xxi. pp. 24, 26 (Cayenne, Caiçara) (1899); Sharpe, Hand-list Gen. & Sp. B. i. p. 186, n. 2 (British Guiana) (1899).

Ibis caudata Rchnw. J. f. O. 1877, p. 154 (descr. opt.) et p. 275.

Ibis caudatus Frenzel, J. f. O. 1891, p. 124 (Cordova).

Theristicus melanopsis Sharpe, Hand-list Gen. & Sp. B. i. p. 186, n. 1 (part., Central Brazil) (1899).

Pileo toto, cervicis parte infima, colloque antico infimo saturate fulvis; genis, vitta plumosa longitudinali gulæ intermedia ac collo albis, interdum plus minusve fulvescentibus; gulæ lateribus, loris, frontis lateribus verrucosis, ac tota regione periophthalmica nudis nigris; pectore, ventre, abdomine et crisso nigricantibus, vix nitore virescente indutis; dorsi plumis et scapularibus fuscis, vix nitore virescente indutis, apice pallide limbatis: tergo, uropygio, supracaudalibus, tibiarum plumis et alarum tectricibus inferioribus nigris, virescenti-niten-

tibus; alarum tectricibus minoribus et mediis cinereis albido limbatis; alarum tectricibus majoribus albis vittam longitudinalem maximam formantibus; remigibus ac cauda conica elongata nigris, metallice e viridi resplendentibus; remigum secundariorum basi obtecta alba: rostro nigro; iride rubra; pedibus colore roseo geranii. Long. tot. circa 750 mm.; al. 440; caud. 230; rostri culm. 170; tarsi 86.

Junior. Pelle nuda frontis et capitis laterum lævi, haud verrucosa; plaga pallida alæ sordide alba.

Hab. Cayenne (*Buffon*), Guiana Britannica (*Schomburgk, Whitely*); Venezuela, Orinoco et Zulia (fide *Ernst*), Altagracia (*Cherrie*); Colombia, Bogotá et Antioquia (*Mus. Berl.*); Brasilia, Santarem (*Allen*), Pernambuco (*Marcgrave*), Bahia (*Wied*), Paracatú, Rio S. Francisco (*Lund*), Matto Grosso (*Natterer, Smith*), S. Paulo et Paraná (*Natterer*), Rio Grande do Sul (*Wied*); Bolivia, Valle Grande (*Garlepp*, in *Mus. Berlepsch*); Paraguay (*Azara*), Rio Pilcomayo (*Kerr*); Uruguay (*Barrows*); Northern Argentina, Salta (*Durnford, Borelli*), Tucuman, Paraná, Mendoza (*Burmeister*), Cordova (*Frenzel*).

This species is easily distinguishable, having the breast black like the rest of the underparts, a broad white band on the wings, formed by the greater wing-coverts, and the hidden base of the secondaries white, also by the rusty-fulvous colour of the cap and of the two spots at the base of the neck, one anterior and the other posterior.

As stated above, I have examined nine specimens of this species. The first is from Cayenne, the very locality inhabited by the type-specimen, figured by Daubenton, on which were based both *Scolopax caudatus* Bodd. and *Tantalus albicollis* Gm. This specimen is strikingly similar to the figure, and remarkable for its great size, and the numerous warts on the naked skin of the forehead and sides of the head.

Scarcely different from it are the two specimens from Venezuela, and two others from Colombia (Bogotá and Antioquia), sent to me by Graf von Berlepsch; the only difference of any importance is in the colour of the lower parts (breast, abdomen, and under tail-coverts) being of a deeper black. Moreover, the rusty-fulvous colour of the pileum and of the two spots at the base of the neck, in front and behind, are of a deeper hue in the Bogotá specimens than in the two from Venezuela.

The type-specimen of *Theristicus columbianus*, sent me by Dr. Finsch, certainly belongs to the present species; it is somewhat immature (as shown by the absence of warts on the forehead and sides of the head, the skin being quite smooth) and therefore has the light band on the wings greyish white, and the hidden base of the secondaries dull whitish.

A specimen in the Turin Museum, received "from Brazil" (no. 3), and another from Bolivia collected by Garlepp (*Mus. Berlepsch*) (no. 9) have the lower parts lighter, somewhat more greyish than those mentioned above; both have the forehead more extensively feathered, and the dimensions somewhat smaller, but the differences seem to be well within the limits of individual variation.

The specimen from Salta (no. 2), which, being a female, is somewhat smaller than the Cayenne bird, is quite similar to this, and differs only in the forehead being less naked, and the whitish colour of the neck more distinctly tinged with fulvous.

The geographical range of this species has been very well indicated by Berlepsch and Stolzmann. It is confined to the eastern part of Southern America, and from Cayenne extends westward to British Guiana, Venezuela, and Colombia, and southward through Brazil, to Bolivia, Paraguay, Uruguay, and Northern Argentina, which probably is the southern limit of the species, as the specimens in the neighbourhood of Buenos Ayres, which are found there during the winter, possibly belong to *T. melanopis*. This, however, can be ascertained only by examination of specimens collected in that country *.

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* Mr. Hudson (P. Z. S. 1871, p. 261) describes the *Vanduria de Invierno*, which is found during the winter south of Buenos Ayres, as having the wings and back ash-blue, a character of *T. melanopis*, and the under surface and belly black, which is a feature of *T. caudatus*! Still I am inclined to believe that the bird mentioned is *T. melanopis*.

Theristicus caudatus has been confused with *T. melanopis* by Wagler, Schlegel, Elliot, and also by Sclater and Salvin; but it has been duly recognized as distinct by Berlepsch and Stolzmann, who have succeeded in establishing its specific characters and geographical distribution very clearly. Dr. Sharpe also has recognized *T. caudatus* as a distinct species, but, having missed Berlepsch and Stolzmann's excellent notes, he has failed in tracing the geographical distribution, and consequently the synonymy given by him is not exact.

I should say that the specimen from Rio Pilcomayo (Cat. B. xxvi. p. 265), where, according to Mr. Graham Kerr, the bird is resident, must belong to *T. caudatus* and not to *T. melanopis**.

2. THERISTICUS MELANOPIS.

Black-faced Ibis Lath. Gen. Syn. iii. pt. 1, p. 108, pl. lxxix. (New Year's Island, near Staten Island) (1785) (*cf.* Forster, Voy. ii. p. 521); id. Gen. Hist. ix. pl. 150.

Tantalus melanopis Gm. S. N. i. 2, p. 653, n. 19 (Insula Novi Anni) (1788); Lath. Ind. Orn. ii. p. 704, no. 5 (1790).

Ibis melanopis Vieill. N. D. xvi. p. 20 (1817) (ex Latham); Dumont, Dict. Sc. Nat. xxii. p. 427 (1821); Vieill. Enc. Méth. iii. p. 1148, pl. 65. f. 2 (1823); Steph. in Shaw, Gen. Zool. xii. 1, p. 12 (1824); Drapiez, Dict. Class. H. N. viii. p. 490 (1825); Wagl. Syst. Av., gen. *Ibis*, sp. 17 (part.) (1827); Gerbe, Dict. Univ. H. N. vii. p. 7 (part., descr. nec habitat) (1843); Des Murs in Gay, Hist. de Chile, i. p. 417 (1848); Hartl. Naumannia, 1853, pp. 216, 222 (Valdivia); Cass. in U. S. Astron. Exped. ii. p. 197 (Chile) (1856); Burm. La Plata-Reise, ii. p. 511 (sub *I. albicollis*) (1861); Schleg. Mus. P.-B., *Ibis*, p. 7 (part. nos. 1 and 2, Chile) (1863); Scl. P. Z. S. 1867, p. 339 (Chile); Scl. P. Z. S. 1870, p. 665 (Santiago, Zool. Gard.); Philippi & Sandb. Cat. Av. Chil. p. 34 (1868); Huds. & Scl. P. Z. S. 1872, p. 549 (Patagonia); Brehm, J. f. O. 1874, p. 95 (in confinement); Gieb. Thes. Orn. ii. p. 386 (part.) (1875); Rchnw. J. f. O.

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* P.S.—Dr. Sharpe now informs me that, as I surmised, the Pilcomayo specimen is *T. caudatus*.

1877, pp. 154, 275 (Chilean Subregion); Lataste, Proc.-verb. Soc. Sc. Chile, 1893, p. cxxii (Magellan Str.).

Ibis albicollis Less. (nec Gm.), Voy. Coq., Zool. i. p. 242 (Rives du Port Saint-Vincent).

Theristicus melanopis part., Wagl. Isis, 1832, p. 1232; G. R. Gr. List Grall. Brit. Mus. p. 98 (Straits of Magellan, Chile) (1844); Licht. Nom. Av. p. 91 (Chile) (1854); Bp. Consp. Gen. Av. ii. p. 155, n. 1 (part., Chile, Ins. Nov. Anni) (1855); id. Compt. Rend. xl. p. 725, n. 172 (1855); Pelz. Reise Novara, Vög. p. 127 (Chile) (1865); Scl. et Salv. Ibis, 1868, p. 189 (Elizabeth I.); Cunningh. Ibis, 1869, p. 233 (W. Patagonia); Scl. et Salv. Ibis, 1870, p. 499 (Sandy Point); Newton, Ibis, 1870, p. 502 (egg, Elizabeth I.); id. P. Z. S. 1871, p. 56, pl. iv. f. 8 (egg); G. R. Gr. Hand-list, iii. p. 40, no. 10233 (Str. of Magellan, Chile) (1871); Scl. et Salv. Nom. Av. Neotrop. p. 127 (part.) (1873); Gigl. Viagg. 'Magenta,' pp. 956, 957, 963 (Patagonia) (1875); Durnf. Ibis, 1877, p. 190 (Buenos Ayres in winter), 1878, p. 400 (Patagonia); Scl. et Salv. P. Z. S. 1878, p. 436 (Sandy Point); id. Voy. Chall., Birds, ii. p. 206 (1880); Berl. et Stolzm. P. Z. S. 1892, pp. 372, 391; Berl. et Stolzm. Ibis, 1894, p. 405 (critical); Sharpe, Cat. B. xxvi. pp. 23 (part., Chile, Str. of Magellan) (1898); Finsch, Not. Leyd. Mus. xxi. pp. 25, 26 (Chile) (1899).

Theristicus melanops Darw. Voy. 'Beagle,' iii. Birds, p. 128 (Patagonia) (1841); Fraser, P. Z. S. 1843, p. 117 (Interior of Chile); Cunningh. Ibis, 1868, pp. 126, 488 (Straits of Magellan); Berl. et Stolzm. P. Z. S. 1892, p. 389 (Ica).

Tantalus melanops Forst. Icon. ined. in Brit. Mus. t. 117; id. (ed. Licht.) Descr. Anim. p. 332 (Insula Novi Anni, Terræ Statuum vicina) (1844).

Geronticus melanopis G. R. Gr. Gen. B. iii. p. 566, n. 15 (1847); ? Scl. P. Z. S. 1876, p. 836 (Zool. Gard.).

Theristicus albicollis Rchnb. (nec Gm.) Syn. Av. t. 140, ff. 531, 532 (?) (1848); id. Av. Syst. Nat. p. 14 (1850).

Ibis melanopsis Bibra, Denkschr. k. Ak. Wiss. v. p. 131 (N. Chile) (1853); id. J. f. O. 1855, p. 56 (N. Chile).

Geronticus (*Theristicus*) *melanopis* G. R. Gr. Hand-list, iii. p. 40, no. 10233 (Str. of Magellan, Chile) (1871).

Geronticus melanotis (errore), Scl. P. Z. S. 1876, p. 828 (Zool. Gard.).

Theristicus caudatus Elliot, P. Z. S. 1877, p. 498 (part.); Salv. (nec Bodd.) Cat. B. Strickl. Coll. p. 525, no. 2558 (specim. *a*, Chile) (1882); Scl. List Vert. An. (8) p. 411 (part.) (1883); Scl. et Huds. Arg. Orn. ii. p. 110 (part., Antarctic S. Amer.) (1889); Holland, Ibis, 1892, p. 205 (Estancia Espartilla, between Ranchas and Chascomus, from May to August); James, New List Chil. B. p. 9 (Chile) (1892); Scl. List Vert. An. (9) p. 427 (part.) (1896).

? *Vanduria* (or *Banduria?*) *de Invierno* Hudson, P. Z. S. 1871, p. 261 (Pampas about lat. 38° S.).

? *Geronticus melanopis* Huds. & Scl. P. Z. S. 1871, p. 261 (south of Buenos Ayres).

Theristicus melanopis Heine & Rchnw. Nom. Mus. Hein. p. 313 (1890).

Ibis caudata Hartert (nec Bodd.), Kat. Vogelsamml. Mus. Senckenb. p. 205, no. 3078 (Chile) (1891).

Ibis (*Theristicus*) *caudatus* Oust. Miss. Sc. Cap Horn, Ois. pp. 140, 330 (part.) (1891).

Theristicus melanopis Sharpe, Hand-list Gen. & Sp. B. i. p. 186, n. 1 (part., Chile and the Str. of Magellan) (1889).

Pileo toto fulvo-æruginoso, lateribus capitis, vitta plumosa longitudinali gulæ intermedia, collo ac pectore albo-fulvescentibus, loris verrucosis, regione periophthalmica ac gulæ lateribus, interdum etiam parte media infima gulæ, nudis, nigris; fascia præpectorali transversa, plus minusve lata, cinerea; abdomine tibiarumque plumis nigricantibus; crisso nigerrimo, nitore virescente; dorso, scapularibus, alarumque tectricibus griseis fere sericeis, tectricibus majoribus et mediis paullo pallidioribus; remigibus, subalaribus, cauda et supracaudalibus nigris, viridi-nitentibus: rostro nigro; iride rubro-sanguinea; pedibus rubris. Long. tot. circa 700 mm.; al. 400; caud. 200; rostri culm. 140; tarsi 80.

Hab. Magellania (*Forster, Cunningham*); Patagonia (*Hudson*); Southern Argentina (*Hudson*); Chile (*Mus. P.-B., Varsovia*, &c.), Valdivia (*Philippi*); Peru occ., Ica (*Kalinowski*), Chorillos (*Jelski*).

This species is easily known from the preceding by the following characters:—the wings are grey, wanting the broad white band so conspicuous in *T. caudatus*; besides, the large rusty-fulvous patch in the middle of the lower part of the fore neck is wanting: the breast is not slaty black as in *T. caudatus*, but fulvous white like the neck, and between this and the breast there is a grey transverse band, more or less broad; finally the hidden bases of the secondaries are not white.

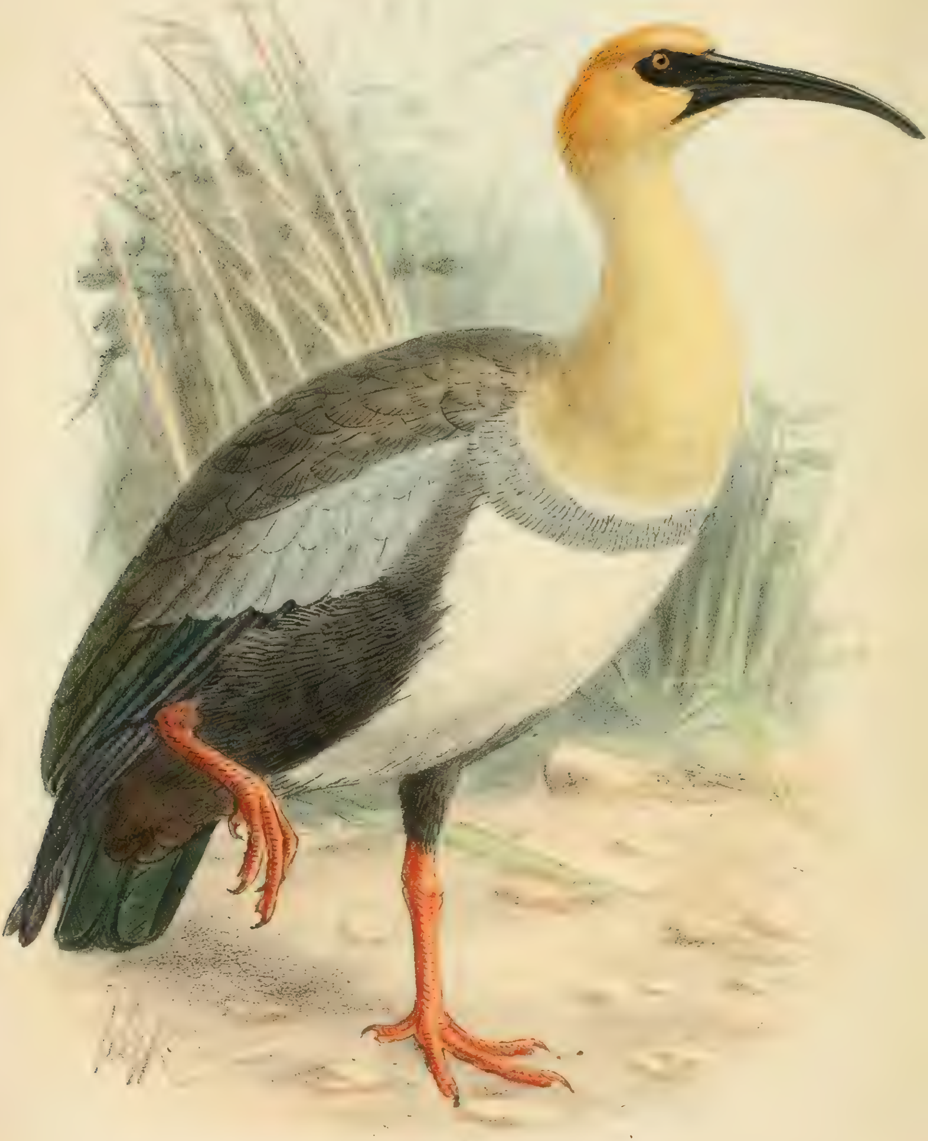
I have examined only three specimens of this species, all in the Turin Museum. One, from an unknown locality, and apparently the oldest of the three, has the upper parts grey, almost uniform, and the grey pectoral band not very distinct, being formed by grey feathers, tipped with fulvous-white, so that the band seems almost obsolete. Reichenbach has figured a similar bird, apparently with no pectoral band at all (*op. cit.* fig. 532). Besides, the above-mentioned bird is remarkable for having the feathered line along the middle of the throat confined to the upper part, while lower down the throat is entirely naked, even in the middle.

The other two specimens examined by me are both from Chile, one sent by the Piedmontese consul Cav. Picollet, and the other (a male) obtained from the Museum of Santiago during the voyage of the 'Magenta.' They are nearly similar, and differ from the preceding one in having the band along the middle of the throat entirely feathered, the feathers of the upper parts with a dark subapical spot quite distinct, the grey pectoral band broader, and the greater wing-coverts somewhat whitish. I think that both these birds are immature.

The area of this species has been clearly described by Berlepsch and Stolzmann. It extends from Magellania to Chile and the western part of Peru as far north as Ica and Chorillos. On the east it inhabits Patagonia, whence during winter it migrates into the southern part of Argentina, apparently as far north as the Province of Buenos Ayres (*Hudson*).

Dr. Sharpe (Cat. B. *l. c.*) has erroneously extended the

Ibis. 1900. Pl. IX.



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THERISTICUS BRANICKII, AD.

area of this species as far north as Matto Grosso, where *T. caudatus* only is found.

3. THERISTICUS BRANICKII. (Plates IX. & X.)

Ibis melanopis Tsch. (nec Gm.), Arch. f. Naturg. 1844, 1, p. 312, n. 313 (Peru); Tsch. et Cab. Faun. Per. pp. 51, 298 (La Puna) (1845–46); Scl. et Salv. P. Z. S. 1869, p. 600 (Pitumarca).

Theristicus melanopis Tacz. (nec Gm.), P. Z. S. 1874, p. 562 (Junin); Sharpe, Cat. B. xxvi. p. 21 (part., specim. *g*. Pitumarca) (1898).

Theristicus caudatus part. Elliot, P. Z. S. 1877, p. 498 (Peru); Tacz. (nec Bodd.), Orn. Per. iii. p. 417 (Peru, Région de la Puna, Junin, Lima, Huanta, Maraynioc) (1886).

Theristicus branickii Berl. et Stolzm. Ibis, 1894, p. 404 (Peruvia alta, Junin, Maraynioc, Pariayacu); Finsch, Not. Leyd. Mus. xxi. pp. 25, 26 (1899); Salvad. et Festa, Boll. Mus. Zool. Tor. no. 368, p. 45 (Vallevicioso, Ecuador) (1900).

Theristicus melanopsis Sharpe, Hand-list Gen. & Sp. B. i. p. 186, no. 1 (part., Peru) (1899).

Mas ad. Pileo toto, cervice summa et genis rufo-æruginosis; collo reliquo et fascia plumosa media longitudinali gulæ albidis plus minusve fulvescente tinctis; fascia præpectorali transversa cinerea; pectore et abdomine medio albis; lateribus tibiarumque plumis nigris; crisso et axillaribus nigris, viridi metallice nitentibus; dorso et scapularibus griseis, his, præcipue longioribus, paullum nitore viridi indutis; tectricibus alarum pallide griseis; remigibus, rectricibus, ac subalaribus nigris, nitore viridi indutis: rostro, frontis lateribus verrucosis, regione periophthalmica et cute nuda gulæ nigris; iride brunnea; pedibus rubris (*Taczanowski*) vel rubro-flavidis (*Festa*). Long. tot. circa 700 mm.; al. 420; caud. 210; rostri culm. 120; tarsi 70.

Fœm. Mari similis.

Juv. Capite et collo albido-fulvescentibus, crebre fusco striolatis; fascia præpectorali cinerea; pectore et abdomine medio albis, plumis in medio stria cinerea notatis; dorso et scapularibus fusco-cinereis, plumis pallidius marginatis et fascia subapicali fusca notatis; tectricibus alarum minoribus cinereis, albo marginatis; tectricibus mediis et majoribus cinereo-albidis; lateribus fusco-nigris; remigibus, cum subalaribus et axillaribus, cauda ac crisso nigris, nitore viridi indutis: "rostro nigricante; pedibus sordide virescentibus" (*Festa*).

Hab. Peruvia alta, La Puna (*Tschudi*), Pitumarca (prope Tinta) (*Whitely*), Junin, Lima, Huanta, Maraynioc (*Jelski*), Maraynioc, Pariayacu (*Kalinowski*): Æquatoria alta, Vallevicioso (Cotopaxi) (*Festa*).

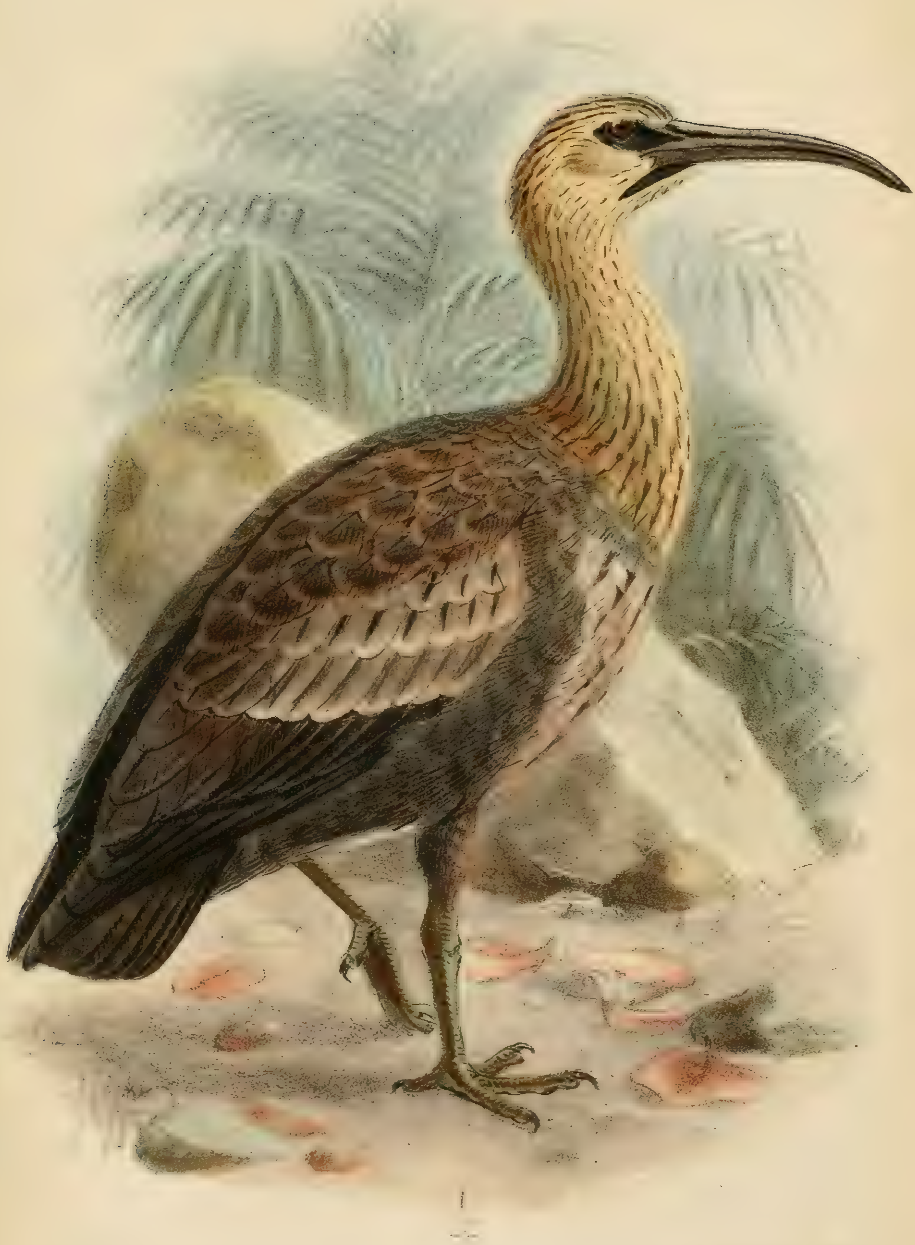
This species resembles *T. melanopis* in having the wing-coverts grey and a transverse grey band on the breast, but is easily distinguished by the breast and abdomen being white.

I have examined eight specimens of this species: one of them was collected by Kalinowski at Maraynioc, Pariayacu; this is labelled as the *type* and has been lent to me by Graf von Berlepsch, to whom it belongs; the other seven were collected by Dr. Festa in Ecuador.

The first (Plate IX.) is remarkable for the rusty-fulvous colour of the pileum and cheeks; the same colour, somewhat paler, spreads over the neck.

The specimens collected by Dr. Festa in Ecuador are four males, one female, and two young birds not sexed. The four males and the female show very slight differences; none of them have the head and neck of a rusty-fulvous colour so bright as in the type-specimen from Peru. Two, apparently fully adult, have the upper parts almost uniform grey, slightly paler on the wing-coverts. One, evidently the youngest, has the head and neck almost entirely white, with some fulvous feathers on the nape and lower part of fore neck; besides it has the smaller wing-coverts with whitish edgings and subapical bands or spots dusky grey, sure signs of being immature.

Lastly, the two young birds (Plate X.) are very remarkable in having the head and neck dull white-fulvous, with dusky streaks along the shafts of the feathers; besides, they have the white feathers of the lower parts streaked with grey along the



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THERISTICUS BRANICKII, JR

middle. This juvenile stage has been very well described by Taczanowski (Orn. du Pérou, iii. p. 418).

Theristicus branickii seems to be confined to the highlands of Peru and Ecuador: its area, so far as we know at present, extends from Pitumarca, near Tinta, on the south, to Vallevicioso in Ecuador on the north.

This species has been confounded with *T. melanopis* by Tschudi and Cabanis, by Sclater and Salvin, and also later on by Taczanowski. By Graf von Berlepsch and Stolzmann it was recognized as perfectly distinct, and the specific characters were pointed out quite clearly. Notwithstanding this, Dr. Sharpe has again mixed it up with *T. melanopis*, under the impression that the differences of plumage relied on by Berlepsch and Stolzmann for the separation of *T. branickii* were only those of age or season.

But the specific validity of this species, agreed to quite recently also by Dr. Finsch, cannot be denied any longer, and I hope that the figures drawn by Mr. Keulemans (Plates IX. and X.), taken from Dr. Festa's specimens (adult and young), will make *T. branickii* recognizable at a glance, and settle the question for the future.

XXX.—*On the Birds of St. Lucia Lake in Zululand.*

By R. B. and J. D. S. Woodward *.

Having just returned from an interesting trip to St. Lucia Lake, Zululand, we send you a short account of the birds met with. On September 19th, 1899, we left the Lower Tugela, the northern terminus of the Natal Railway, and, crossing the river, proceeded with our cart and oxen along the coast-road. We forded in succession the rivers Amatikulu, Umsundusi, Umhlatusi, and Umfolosi, and on the eighth day reached an extensive wood called the "Duku-duku" or "Wandering Bush," which stretches from the Umfolosi along the coast. This country is undulating, and the forest extends over low hills and swampy valleys, and, being unhealthy, is thinly populated, the native kraals being on the outskirts. We did not find it a good locality for birds, and although it was the spring of the year, we heard no new notes, and even the commoner species were not plentiful. We obtained here, however, a specimen of the Pileated Francolin (*Falco pileatus*), which we had not met with before.

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* For former articles on this subject by Messrs. Woodward see 'Ibis,' 1897, p. 400 and p. 495, and 1898, p. 216.

After a short stay here we went on, passing through a grassy country interspersed with "pans" or shallow sheets of fresh water, often covered with the blue lotus, which filled the air with its sweet scent, and other aquatic plants, and bordered with rushes—the larger ponds being visited by waterfowl in considerable numbers.

On November 8th we reached St. Lucia Lake, near its southern end, where we found the water so shallow that we were able to wade right across it, though this was rather a tedious process, it being a mile broad at this point. As there was a considerable deposit of mud, we left our wagon on the bank and took our things over by bearers. When the water is deep a boat is used.

The country we wished to explore lay between the lake and the sea—a strip of land about four miles broad, but increasing in width towards the northern end. We found the land here more elevated and diversified, with several sand-hills of considerable height. Mr. Feyling has a Mission Station in this locality: he has not been long here, but finds the climate more healthy than the inland side of the lake. He was engaged in building a new house, commanding a fine view of the ocean on one side and the lake on the other. This was constructed chiefly of timber from a large barque that had been wrecked on the coast. This gentleman informed us that he had shot a specimen of the Spoonbill (*Platalea alba*) on the lake, but that it appeared to be rare.

After stopping about a fortnight in this neighbourhood, which consists principally of grassy hills interspersed with clumps of low bush, with the aid of the missionary's cart, which was drawn by a span of donkeys, we moved about ten miles further up the coast, where there is an extensive forest stretching for many miles northward, and covering some peaks of considerable height. We did not find a great variety of birds in this wood, perhaps on account of its proximity to the sea; but there were some interesting species among them.

The following is a list of the birds met with on St. Lucia Lake and in its vicinity, with our field-notes added.

HELOTARSUS ECAUDATUS. (Bateleur Eagle.)

Sharpe, ed. Layard's Birds S. Afr. p. 48.

Several times we saw a pair of this fine bird hovering round. It has the peculiar habit of turning somersaults in the air, like a Tumbler Pigeon. With its black body and bright red face and feet it has quite an imposing appearance. It has a clear, resonant, almost human-like cry.

MILVUS ÆGYPTIUS. (Yellow-billed Kite.)

Op. cit. p. 49.

Very common and easily shot on the wing. It is very destructive to poultry, and will even partake of mussels and fishes when left by the natives on the beaches. We found locusts and bones of birds in their stomachs.

BAZA VERREAUXI. (Verreaux's Cuckoo Falcon.)

Op. cit. p. 54, pl. i.

A specimen that we shot measured fifteen inches. Iris and feet bright yellow. It had a rufous collar on the nape, which seems to have been overlooked in previous descriptions of this species.

BUBO LACTEUS. (Verreaux's Eagle-Owl.)

Op. cit. p. 71.

We saw one pair of this fine Owl, which we had previously shot on the Umfolosi. It has a loud, shrill, eagle-like cry. This bird preys on hares and other small wild animals and birds.

TURACUS CORYTHAIX. (Green Loury.)

Shelley, Cat. B. xix. p. 440.

These Turacous are common here, their hoarse croaking being constantly heard in the thick bush. The nest is built in the top of a tree and is not often found. It is made of sticks, and the eggs are white. We noticed that the birds shot after rain had lost much of the brilliancy of the carmine colour of the wing-feathers; but apparently the colour returns after the weather gets dry again. This is not surprising, as the pigment called Turacine is extracted from these feathers.

COSMETORNIS VEXILLARIUS. (Standard-winged Nightjar.)
Sharpe, ed. Layard's B. S. Africa, p. 89.

We shot two specimens of this remarkable Nightjar, the first we have seen in South Africa. We found the remains of beetles in their stomachs. Although there are so many varieties of Nightjar found in this country, we know of only one cry, which we think must be common to several species.

HAPALODERMA NARINA. (Narina Trogon.)
Op. cit. p. 106.

Plentiful, and its monotonous cry is heard continually.

CERYLE RUDIS. (Pied Kingfisher.)
Op. cit. p. 110.

Plentiful on the lake, where it hovers like a Kestrel before pouncing down on its prey.

HALCYON ALBIVENTRIS. (Brown-hooded Kingfisher.)
Op. cit. p. 115.

A common land-bird here, rarely seen on the water, and feeding principally on insects.

BUCEROS BUCCINATOR. (Trumpeter Hornbill.)
Op. cit. p. 125.

TOCCUS ERYTHRORHYNCHUS. (Red-billed Hornbill.)

Both these Hornbills are often seen near the lake.

CUCULUS KLAASI. (Klaas's Cuckoo.)
Op. cit. p. 155.

This is the only Green Cuckoo we found here, though we shot the Emerald Cuckoo in the Duku-duku.

CENTROPUS SENEGALENSIS. (Lark-heeled Cuckoo.)
Sharpe, ed. Layard's B. S. Afr. p. 162.

Very plentiful and remarkably tame, even coming to our tent to eat porridge thrown out to them.

CEUTHMOCHARES AUSTRALIS. (South African Coucal.)
Op. cit. p. 161, pl. v. fig. 1.

Like a Loury this bird creeps about the branches of the trees. It has a peculiar long-drawn cry, preceded by a loud clucking note.

POGONORHYNCHUS TORQUATUS. (Black-collared Barbet.)
Op. cit. p. 172.
Abundant.

BARBATULA BILINEATA. (Bridled Barbet.)
Op. cit. p. 176.

Abundant. We observed that the cry of this bird exactly resembles the metallic note of the Tinker Barbet (*B. pusilla*), which is not found in this district.

CAMPOTHERA ABINGTONI. (Golden-tailed Woodpecker.)
Op. cit. p. 182.
This is the only Woodpecker we saw in the district.

COSSYPHA BICOLOR. (Noisy Chat-Thrush.)
Op. cit. p. 222.

We call this species the "Natal Mocking-bird," as it imitates the cries of a number of birds.

COSSYPHA CAFFRA. (Cape Chat-Thrush.)
Op. cit. p. 224.
Common.

PYCNONOTUS LAYARDI. (Layard's Bulbul.)
Op. cit. p. 815.

PYCNONOTUS CAPENSIS. (Cape Bulbul.)
Both these Bulbuls are plentiful here.

PHYLLOSTREPHUS CAPENSIS. (Cape Bristle-necked Thrush.)
Op. cit. p. 203.
Plentiful.

CRINIGER FLAVIVENTRIS. (Yellow-breasted Bulbul.)
Sharpe, ed. Layard's B. S. Afr. p. 203.
Plentiful.

ANDROPADUS IMPORTUNUS. (Sombre Bulbul.)
Op. cit. p. 204.
Plentiful.

MUSCICAPA CÆRULESCENS. (Blue-grey Flycatcher.)
Op. cit. p. 340.
Common; it makes a grass nest in holes in trees.

PLATYSTIRA PELTATA. (Green-throated Flycatcher.)
Op. cit. p. 345.

This is apparently Layard and Sharpe's Green-throated Flycatcher (*Platystira peltata*). We shot two specimens; they measured five inches in length, rather larger than the size given by Layard and Sharpe.

This is the first time we have met this bird; it seems to keep to the undergrowth. Its only note appears to be a low whistle. The bright scarlet wattle above the eyes is very conspicuous.

PACHYPRORA MOLITOR. (White-flanked Flycatcher.)
Op. cit. p. 348.
Common in this district.

PACHYPRORA FRATRUM Shelley.*
A Flycatcher new to us, evidently nearly allied to the above.

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* [Capt. Shelley agrees with Messrs. Woodward in referring these specimens to a new species, and describes it as follows:—

"PACHYPRORA FRATRUM, sp. nov.

"Most nearly allied to *P. mixta* Shelley (P. Z. S. 1889, p. 359, pl. xl.), and, with the exception of the chestnut crop-band, agrees well with the plumage of the adult male of that species.

"This species belongs to the group characterized by having the under wing-coverts white, with a black patch next to the bend of the wing, to which *P. capensis* and *P. dimorpha* should also be referred. It is probably an adult female, as it has the crop-band chestnut, and differs from the females of all the other known species in having the throat above the crop-band entirely pure white, and from the females of the

The specimens that we send (male and female) are almost identical. The note is different from that of the other species of the genus. Plumage, upper parts dark grey ; a broad strip of black runs through the eye; chin and throat white; chest and thighs light orange-buff, and a patch of the same colour on the wing-coverts, a white line extending from the base of the bill over the eye. Iris orange, feet and bill black. Length: male 4¼ inches, female 3¾.

TERPSIPHONE PERSPICILLATA. (South African Paradise-Flycatcher.)

Sharpe, ed. Layard's B. S. Afr. p. 352.

Not very common. The bright blue cere and base of bill of this bird fade after death.

LANIARIUS GULARIS. (Zambesi Green Shrike.)

Op. cit. p. 390.

This rare bird, which we first met with on the Pongola, we obtained again here. It sings fairly well, its notes being loud and varied.

LANIARIUS CUBLA. (Lesser Puff-backed Bush-Shrike.)

Op. cit. p. 392.

This bird is also plentiful and we have found its nest. See our 'Natal Birds,' p. 34.

LANIARIUS FERRUGINEUS. (Large Puff-backed Bush-Shrike.)

Op. cit. p. 393.

This bird is also plentiful on the lake : we have found the nest. See our 'Natal Birds,' p. 34.

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other members of this group it further differs in the back being grey of the same shade as the crown, and in the entire absence of rufous on the wings and sides of the body.

"The second specimen is in immature plumage and differs in having a slight wash of rufous on the upper throat, a faint olive shade on the upper back, and some broad rufous-buff margins to the feathers of the wing. The bill is slightly larger and wider than in *P. capensis* and *P. dimorpha*, but agrees perfectly with that of *P. mixta*."]

Laniarius poliocephalus. (Large Grey-headed Bush-Shrike.)

Sharpe, ed. Layard's B. S. Afr. p. 387.

The mournful whistle of this bird is often heard; it is preceded by a clicking or snapping noise made by its bill.

Laniarius quadricolor. (Natal Bush-Shrike.)

Op. cit. p. 381.

One of the commonest birds along this coast. They make their nests in low bushes, laying four white eggs.

Laniarius senegalus. (Common Red-winged Bush-Shrike.)

Op. cit. p. 394.

Plentiful. It nests in a low tree and lays pretty eggs. They are white, pencilled with black marks.

Macronyx striolatus. (Southern Yellow-breasted Long-Claw.)

Op. cit. p. 532.

This seems to be the only Lark found here, but we saw several of the Red-breasted Lark (*M. ameliæ*) on the other side of the lake.

Dicrurus ludwigi. (Small Drongo.)

Op. cit. p. 410.

Met with on the lake.

The Sun-birds are represented here by *Cinnyris verreauxi, C. olivaceus,* and *Anthodiæta collaris.* We also noticed four species of Bush-Warblers.

Game-birds are particularly scarce at St. Lucia, and we neither saw nor heard any of the Francolins, though they are said to come here in the winter. Verreaux's Guinea-fowl (*Numida verreauxi*) was abundant.

Of the Water-birds of St. Lucia the following were specially noticeable:—

Pelecanus mitratus. (Mitred Pelican.)

Op. cit. p. 776.

We saw a large flock of these birds flying up to their feeding-ground beyond the drift. Their cry is loud and harsh. They looked very picturesque, flying over the lake in their accustomed wedge-like formation.

PHŒNICOPTERUS MINOR. (South African Flamingo.)

Phœnicopterus erythræus, Sharpe, ed. Layard's B. S. Afr. p. 744.

This bird was fairly plentiful, but kept well out of range of our fowling-pieces. Mr. Lindfield, of the Mission, shot one with his rifle, which we preserved.

PHALACROCORAX AFRICANUS. (Long-tailed Cormorant.)

Op. cit. p. 781.

We found this bird very tame, generally sitting on stumps of trees in the water, often with its wings spread out to dry. On the opposite side of the Lake there was a colony of them nesting in the month of June.

P. lucidus (op. cit. p. 779) was also abundant and had the same habits.

PLOTUS LEVAILLANTI. (African Darter.)

Op. cit. p. 782.

This bird was constantly seen swimming on the water, with its head and neck *only* visible.

PARRA AFRICANA. (African Jacana.)

Op. cit. p. 648.

Very common. They seem to be generally engaged chasing each other through the air, or running over the flat leaves of the blue lotus.

We also saw Black Rails (*Limnocorax niger*), Purple Gallinules (*Porphyrio smaragdonotus*), two sorts of Ibises (*Ibis æthiopica* and *Geronticus hagedash*), and many Ducks, besides Plovers and Sandpipers.

XXXI.—*Notes on the Nesting of the Pomatorhine Skua.*

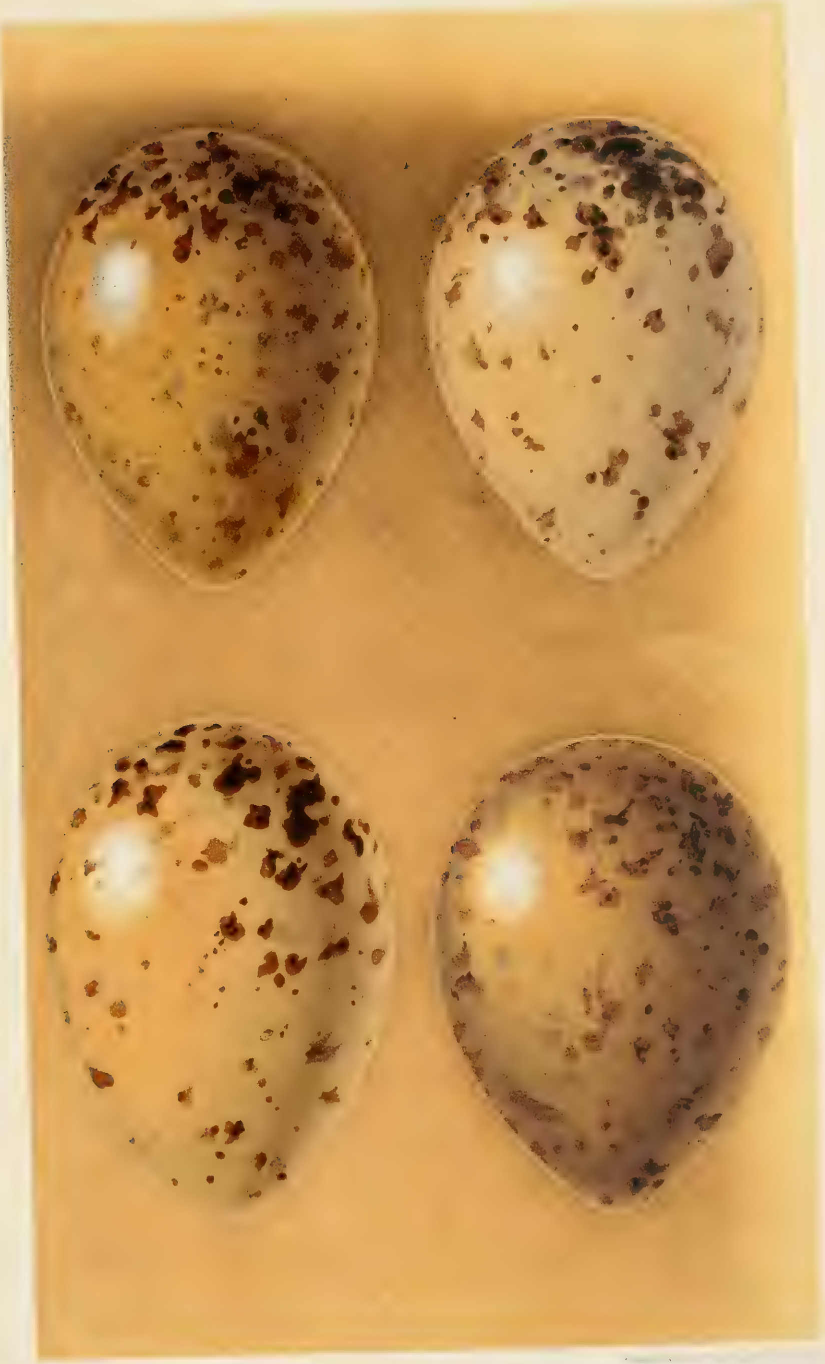
By C. Boyce Hill.

(Plate XI.)

In his notes on the Birds observed on the Yenisei river (Ibis, 1897, p. 107), Mr. H. L. Popham has briefly mentioned that we found three nests of the Pomatorhine Skua ; but inasmuch as comparatively little is known respecting the breeding of this species, and as, I believe, we are the only Englishmen who have handled the eggs *in situ*, there may, perhaps, be some excuse for further remarks to accompany the illustration (Plate XI.).

On our way down the Yenisei, the steamer which was towing us fortunately ran ashore on one of the numerous sandbanks which abound in this river. I say fortunately, because it enabled us to discover this Skua nesting. After having enquired the probable duration of our stoppage, Popham and I agreed to explore the small islands near at hand—a group named the Brekotsky. We took one each, and on mine, a large flat marsh, I observed a Pomatorhine Skua, which was presently joined by another. The birds did not appear at all demonstrative nor to resent intrusion, like the Long-tailed Skuas, so I thought they could not be nesting. But after much searching and watching, I observed one settle right in the centre of the marsh, so at once proceeded to the spot ; the bird rose when I was within a few yards of it, and to my delight I saw the nest with two eggs. I waited a few moments for the Skua to come within shot, and killed it; after pursuing its mate, I captured that also.

The nest was a mere depression in the ground, on a spot rather drier than the surrounding marsh, and to reach it I was at times up to my knees in swamp, so that, had it not been for a foundation of ice at a depth of from 18 inches to 2 feet from the surface, I do not think I should have been able to record this event. I also found nesting on this island some Scaup Ducks and Red-necked Phalaropes. In the evening Popham and I together visited another part of the island, and were rewarded by discovering, under similar conditions, another nest of the Pomatorhine Skua containing two eggs ; and there also the only other birds we observed nesting were Scaups



EGGS of the POMATORHINE SKUA.

and Red-necked Phalaropes. A few days later we discovered a third nest of this Skua on the mainland in a much drier situation, making in all six eggs of this bird. I might add that in each instance the eggs were slightly incubated.

The figures in Plate XI. have been taken from drawings made by Mrs. Boyce Hill. The upper figures represent specimens in my collection, and the lower are those of specimens in that of Mr. Popham.

The measurements of the eggs as given by Mr. Popham in 'The Ibis' (1897, p. 107) are 2·35 to 2·65 inches by 1·79 to 1·86.*

XXXII.—*Proceedings at the Anniversary Meeting of the British Ornithologists' Union,* 1900.

THE Annual General Meeting of the British Ornithologists' Union was held at the rooms of the Zoological Society of London, 3 Hanover Square (by permission of the Council of that Society), on Wednesday, the 16th May, at 5.30 P.M., Mr. F. DUCANE GODMAN, F.R.S., President, in the Chair.

The minutes of the last Annual Meeting having been read and confirmed, the Report of the Committee was read. It stated that the Union had suffered the loss of eleven Members by death since the last Anniversary. These were :—Mr. John Cordeaux, Dr. Elliott Coues, Mr. H. B. Hewetson, Lord Hylton, Mr. E. L. Layard, Prof. Alphonse Milne-Edwards, Prof. St. George Mivart, F.R.S., Mr. T. J. Monk, Mr. E. M. H. Riddell, Mr. F. B. Simson, and Dr. A. C. Stark.

Five Members had withdrawn, and one Member had been removed (under the operation of Rule 6) for non-payment of his subscription.

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* [Middendorff appears to have been the first to obtain authenticated eggs of this species, and the figure of a specimen from the Taimyr Tundras is given in his 'Sibirische Reise' (pl. xxiv. fig. 1), while a better illustration of an example taken by Middendorff in the same district has been given by Prof. Newton (P. Z. S. 1861, pl. xxxix. fig. 3). We are not aware of any other figures of authenticated specimens up to the time of Messrs. Popham and Hill. After comparing their genuine eggs with the specimen taken on Berg Island, Novaya Zemlya, and ascribed to this species (Man. Brit. B. 1st ed. p. 736), Col. Feilden and Saunders are of opinion that the last is probably an unusually large egg of *S. crepidatus*. —EDD.]

The number of the Members of the Union was 349, consisting of 322 Ordinary, 2 Extraordinary, 9 Honorary, and 16 Foreign Members. There were 26 Candidates for the Ordinary Membership.

The Committee was glad to report that the prosperity of the Union had continued unabated during the past year.

The Annual volume of 'The Ibis' for 1899, forming the fifth of the Seventh Series, had been issued in due course. It contained 694 pages and 13 plates.

The Subject-Index to 'The Ibis' from 1859 to 1894 (the first six Series) had been printed during the past year, and issued to subscribers early in January of the present year. It contained 140 pages.

The Report having been adopted, the accounts for the year, which had been audited by Mr. W. R. Ogilvie Grant, were presented by the Secretary, and approved by the Meeting.

Dr. R. Bowdler Sharpe and Mr. E. Hartert were elected to represent the B. O. U. at the International Ornithological Congress at Paris on June 26th next, and it was arranged that a third Member should be selected by the Committee for the same purpose.

The consideration of the appointment of Members to represent the B. O. U. at the German Ornithological Society's Meeting at Leipzig in October next was left in the hands of the Committee.

Mr. F. DuCane Godman, F.R.S., was re-elected President, and Mr. E. W. Oates Secretary of the Union for the ensuing year. Dr. R. Bowdler Sharpe was elected a Member of the Committee in the place of Mr. A. H. Evans, who had retired by rotation.

It was agreed that a new (Eighth) Series of 'The Ibis' should be commenced in 1901 with the 43rd volume, and that Mr. P. L. Sclater, F.R.S., and Mr. A. H. Evans should be joint Editors.

The following 26 Candidates were then balloted for and declared to be duly elected Ordinary Members of the British Ornithologists' Union:—William S. Bruce, Zoological Laboratory, Surgeons' Hall, Edinburgh: Bernard A. E. Buttress, The Cross House, Fawkham, Kent: Frederick J. S. Chatterton, F.E.S., 78 Clissold Road, Stoke Newington, N.: Charles Garnett, 9 Porchester Gardens, W., and New University Club, St. James's Street, S.W.: Francis Gayner, Beech Holm, Sunderland, and King's College, Cambridge: Walter Goodfellow, 26 Nelson Road, Southsea: Edmund W. Harper, F.Z.S., 1 A Camac Street, Calcutta: Henry E. Harris, Leighton Buzzard, Beds; Percy P. H. Hasluck, The Wilderness, Southgate, N.: John W. Hills, 14 Victoria Grove, Kensington, W.: Major Henry Jones (late 62nd Regt.), East Wickham House, Welling, Kent: Dr. Alexander F. König, Bonn University, and Coblenzer Strasse 164, Bonn, Germany: Frederick V. McConnell, 37 Cranley Gardens, South Kensington, S.W.: Geoffrey B. T. Metcalfe, Roche Court, Salisbury; Edwin S. Montagu, Trinity College, Cambridge: Frederick E. Mugford, 16 Buckingham Street, Strand, W.C.: John P. Chaworth-Musters, Annesley Park, Nottingham: Walter B. Nichols, East Lodge, Mistley Green, Manningtree, Essex; Arthur B. Percival, Somerset Court, Brent Knoll, Somerset: Robert Service, Maxwelltown, Dumfriesshire, N.B.: Robert Shelford, Sarawak Museum, Kuching, Sarawak: Athelstan Iliff Simey, The College, Durham: John W. C. Stares, Porchester, Hants: Archibald Thorburn, 94 Fellows Road, South Hampstead, N.W.: William P. Westell, 5 Glenferrie Road, St. Albans: Edward A. Wilson, Loscombe Lodge, Stanmore.

Prof. Robert Collett, C.M.Z.S., Foreign Member, was elected an Honorary Member of the Union.

Dr. Valentine Bianchi, of the Imperial Zoological Museum, St. Petersburg: Dr. Othmar Reiser, of the Landes Museum, Sarajevo, Bosnia: and Mr. Leonard Stejneger, C.M.Z S., Smithsonian Institution, Washington, U.S.A.; were elected Foreign Members of the Union.

After a vote of thanks to the Council of the Zoological Society of London for the use of the Society's Rooms, the Meeting adjourned.

The Annual Dinner, subsequently held at the Frascati Restaurant in conjunction with the Monthly Dinner of the B. O. C., was attended by 46 Members and guests.

XXXIII.—*Bulletin of the British Ornithologists' Club.*

Nos. LXX.–LXXII.

No. LXX. (March 31st, 1900).

The sixty-ninth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 21st of March, 1900. *Chairman*: P. L. Sclater, F.R.S. Thirty Members and five guests were present.

The Hon. Walter Rothschild exhibited an adult specimen of the so-called *Aquila fulvescens*, shot by Herr Führer in Albania, together with a young bird obtained about the same time and place. For comparison he placed on the table adult and young birds of the Great Spotted Eagle (*Aquila maculata*) and the Small Spotted Eagle (*Aquila pomarina*), and made the following remarks:—"The name *Aquila fulvescens* has hitherto been bestowed on Indian specimens, and this form has, up to the present time, been admitted by British ornithologists to be a well-marked and distinct species. The late Eugen von Homeyer described a European example under the name of *Aquila boecki*, and since then, including the one exhibited to-night, three more examples have been recorded from Europe. Mr. Hartert, Dr. Otto Reiser (*in litt.*), and several other naturalists have more than once drawn attention to the exactly similar proportions and external characters existing between *Aquila maculata* and *Aquila fulvescens*, the only difference being in the colour of the plumage, and they have suggested that *A. boecki* might be a more or less constant aberration of *Aquila maculata*.

"I think that the young bird exhibited will convince most ornithologists, as it has myself, that *Aquila fulvescens* is really a parallel 'aberration' to the light forms of the Common Buzzard, *Buteo buteo*, and that it is not a good species. This young bird has the upper and under tail-coverts, as well as the feathers of the leg and thigh, of the same pale buff colour, and in these markings it resembles the adult *Aquila fulvescens*; while the rest of its plumage is identical with typical young of *Aquila maculata*. A further proof is that a few examples of the Indian Little Spotted Eagle (*A. hastata*) show a tendency to have large buff areas of plumage. I therefore consider that there are only three species of Spotted Eagles with round nostrils, viz.: 1. *Aquila maculata*, 2. *Aquila pomarina*, 3. *Aquila hastata*. It follows, therefore, that *Aquila fulvescens* must be sunk as a species and must stand as *Aquila maculata*, aberr. *fulvescens*."

Mr. Rothschild exhibited a series of birds from the island of S. Thomé, in the Bight of Benin, and made remarks on some of the species which were peculiar to the island.

He also called the attention of the meeting to some remarkable specimens of *Phalacrocorax chalconotus*, illustrating the breeding-plumage of the species, with the tufts of white filamentous plumes above the eyes. The young birds had formerly been described as *Phalacrocorax glaucus*, but specimens in intermediate stages of plumage in the Tring Museum showed that *P. glaucus* and *P. chalconotus* were identical.

Mr. Rothschild exhibited specimens of the Balkan Shore-Lark (*Otocorys balcanica*).

He also exhibited a specimen of a young bird of *Urubitinga urubitinga*, which had been captured by Mr. André at a distance of 200 yards inside the great cave of the *Steatornis*, at Caripé in Venezuela.

Mr. Ernst Hartert described a new Spine-tailed Swift as follows:—

Chætura thomensis, sp. n.

This remarkable new species of *Chætura* is smaller than all the other African species, and the wings, though fully as long as those of *Chætura sabinei*, are much narrower, softer, and weaker. It is doubtless the bird mentioned by Mr. Newton, of Lisbon, as *Ch. cassini*, but no specimen appears to have been procured by him. *Ch. cassini* is much larger, and has a much shorter and stiffer tail than *Ch. thomensis*, and *Ch. sabinei* has a much broader wing, and its under and upper tail-coverts are so much elongated as to cover the rectrices above and below, while in *Ch. thomensis* they leave nearly 2 cm. above and about 1 cm. below uncovered.

Ch. thomensis is black above, including the wings and tail, with greenish and steel-blue reflections. Throat and breast dull greyish black, without gloss. Abdomen white, with dull black shaft-lines to the feathers. Upper and under tail-coverts white, with broad black shaft-streaks; the longest upper tail-coverts almost entirely brownish black. Under wing-coverts black. Total length about 105 mm. (from tip of bill to end of tail), wing 116–117, tail 43, the bare tarso-metatarsus 8·5 mm.

Three adult specimens were procured at Pedroma on the island of San Thomé, W. Africa, by Mr. Albert Mocquerys.

Mr. W. E. D. Scott exhibited a series of interesting photographs of the nests of the Spine-tailed Swift of North America (*Chætura pelasgia*), showing the growth of the nestlings at different periods of their advancement in age. He also gave some interesting details of the habits of the species. The photographs had been rendered possible by the removal of the sides of the chimney in his own house, so as to reveal the nests *in situ*.

Mr. Scott also contributed the following notes on three new species of *Tyrannidæ* from Patagonia, specimens of which he placed before the meeting:—

"The descriptions of these birds, apparently heretofore unknown, are based on material collected in Patagonia by Mr. J. B. Hatcher. Mr. Hatcher was sent on a scientific mission to this region by the University of Princeton, New Jersey, U.S.A. The study of the geology of the country and the collection of palæontological specimens were the chief objects of this expedition, but the collection of about one thousand birds clearly indicates that the existing fauna was in no way neglected. All of this ornithological material is now at the Natural History Museum, South Kensington, whither I have brought the specimens by the direction of Princeton University, the British Museum being the only place where adequate comparisons can be made. A monograph in detail will be the ultimate result of this work, and in the meantime diagnoses of such birds as appear to be undescribed will be communicated to the British Ornithologists' Club.

"MUSCISAXICOLA GARRETTI, sp. n.

"♂. Fronte nigro, pileo reliquo castaneo: hypochondriis et subcaudalibus pallide cinnamomeis. Long. tot. circa 6·4 poll., culm. 0·7, alæ 4·3, caudæ 2·55, tarsi 1·2.

"♀. Mari similis. Alæ 4·4 poll.

"*Hab.* Near Coy Inlet, Patagonia, October 1896. Princeton University Collection, Nos. 7643, 7644.

"This species is named after Mr. John W. Garrett, of Baltimore, Maryland, in appreciation of the assistance which he has rendered to the expeditions sent to Patagonia.

"MUSCISAXICOLA HATCHERI, sp. n.

"♂. Similis *M. griseæ*, sed magis brunnescens: linea frontali alba, et remigibus albo fasciatim apicatis distinguenda. Long. tot. circa 6·5 poll., culm. 0·7, alæ 5·0, caudæ 2·75, tarsi 1·3.

"*Hab.* Cordillera, Upper Rio Chico, Patagonia, 18 February, 1897. Princeton University Collection, No. 7645.

"This species is named after Mr. J. B. Hatcher, whose work in Patagonia has contributed largely to our knowledge of the past and present fauna of that country.

"AGRIORNIS POLIOSOMA, sp. n.

"♂. Similis *A. maritimæ*, sed plumbescenti-brunneus: gastræo quoque plumbescenti-brunneo: subcaudalibus albis: crisso vix cervino tincto: gutture albo, distincte nigro striolato: fascia superciliari alba distincta: maculâ lorali nigrâ: genis albis, nigro striatis: caudæ pro 1·0 poll. ad apicem albo terminata. Long. tot. 9·3 poll., culm. 1·15, alæ 5·3, caudæ 4·0, tarsi 1·3.

"*Hab.* Arroyo Gio, Patagonia, 20 May, 1898. Princeton University Collection, No. 7927.

"This species is closely allied to *A. maritima*, but is distinguished by its leaden-brown plumage and *white* superciliary streaks, as well as by the increased amount of white on the tail-feathers."

Dr. Bowdler Sharpe exhibited a specimen of the rare *Bubo letti*, Büttik., from the Rio Benito, French Congo, obtained by Mr. G. L. Bates. The species had been originally described by Dr. Büttikofer from Liberia, and placed by him in the genus *Bubo*. The present specimen, however, had been examined by Mr. Pycraft for its pterylography, and Dr. Sharpe, judging by its external characters, concurred with him that it belonged to the genus *Scops*, and should be known as *Scops letti* (Büttik.).

Another interesting bird procured by Mr. Bates was a white-spotted Crake, which did not seem to be quite the same as *Canirallus oculeus* of the Gold Coast. It was identical, however, with the bird from the Cameroons, and Dr. Sharpe had already referred (Cat. B. xxiii. p. 73) to the differences exhibited by the birds of the latter country. He therefore proposed to describe the Crake from the French Congo and the Cameroons as

Canirallus batesi, sp. n.

Ad. Similis *C. oculeo*, sed saturatior, dorso saturatè olivascenti-brunneo, nec virescenti-olivaceo: pileo sordidè brunneo, nec rufescenti-brunneo: fronte et facie laterali, sicut in *C. oculeo*, cinereis; regione auriculari quoque cincreâ. Long. tot. 11·0 poll., culm. 1·35, alæ 6·3, caudæ 2·4, tarsi 1·95.

Among other interesting birds obtained on the Rio Benito on the same occasion were examples of *Bubulcus lucidus* and *Calopelia brehmeri*.

Dr. Sharpe likewise exhibited a specimen of a Goshawk from British Guiana, from the collection of Mr. F. V. McConnell. Feeling sure that it was *Astur jardinii* of Gurney (Ibis, 1887, p. 96, pl. iii.), Dr. Sharpe had sent the specimen to Mr. James Reeve, the Director of the Castle

Museum at Norwich, for comparison with the type and unique example of the species in that museum. Mr. Reeve stated that the Guiana example was identical with the type of *A. jardinii*, and therefore the habitat of this species, previously unknown, was now ascertained to be Guiana.

Mr. OGILVIE GRANT, on behalf of Mr. C. B. Rickett, exhibited an example of a very distinct new species of Scops Owl, for which Mr. Rickett had proposed the name of

SCOPS LATOUCHII, sp. n.

Adult male. This species belongs to the yellow-billed group of the genus *Scops*, and is apparently most nearly allied to *S. icterorhyncha*, Shelley, from the Gold Coast, and more distantly related to *S. rufescens* (Horsf.), from Malacca and the Sunda Islands. The pale frontal band is, however, less conspicuous than in the above-named species. *Scops latouchii* differs chiefly from *S. icterorhyncha* in having the feathers of the head and mantle distinctly barred with black and rufous buff; but the barring is mostly concealed by the wide reddish-brown tips to the feathers, which are very finely vermiculated with black; the tail is rather strongly marked with irregular bars and mottlings of black on a brownish-red ground; the bars on the outermost primaries are rufous buff instead of white; the underparts are whitish buff, shading into rufous on the upper breast and flanks, entirely devoid of dark shaft-streaks, but very finely vermiculated with brownish black; the feathers covering the basal part of the belly, vent, and the longish flank-plumes are pure white, some of the latter, like the under tail-coverts, having reddish-brown bars.

Total length about 9·0 inches, wing 5·9, tail 3·5, tarsus 1·15.

Hab. Ah Ch'ung, Fohkien, 16th December, 1899.

Mr. DIGBY PIGOTT communicated a note from his friend Mr. J. R. Dasent, C.B., who had just returned from his yearly visit to the island of St. Vincent, West Indies.

Mr. Dasent stated that the destruction of bird-life of all kinds by the hurricane of September 1898 had been very great. A small bronze-green Humming-bird, which had before been the commonest and boldest bird in the island, had, it was believed, entirely disappeared. During the seven weeks of Mr. Dasent's stay he had not noticed one of these birds, though on previous visits they were to be seen, sitting on telephone wires &c., and as plentiful as Swallows in summer in England. Mr. Thompson, the Administrator, had told him that since the hurricane he had neither himself, nor had he met with anyone who had, observed one of these birds. Two other Humming-birds, formerly less common than the extinguished species, still existed in the island, but in much reduced numbers.

A Parrot, usually to be found only with difficulty in the mountain forests, and a Pigeon (known locally as "Ramier")—also an exceptionally shy bird—after the hurricane came about, and even into, the towns in search of food, in large numbers (the Parrots singly, the Pigeons in small parties), many of them in such an exhausted state as to be easily caught by hand.

Mr. Sclater called attention to the Report of the Society for the Protection of Birds (of which he was one of the Vice-Presidents) as adopted at the Anniversary Meeting on 26th February last. Mr. Sclater was quite in accord with the general objects of this Society as explained in their prospectus, although, as regards protective legislation, he was of opinion that interference in this matter by Acts of Parliament might be sometimes carried too far. He thought, however, that every lover of birds would do well to join the Society.

Mr. Sclater stated that Messrs. Goodfellow and Hamilton (who were present as guests on this occasion) had lately returned from a successful expedition in the Colombian and Equatorian Andes, during which they had made a collection of upwards of 5000 bird-skins, comprising examples of many rare species. The travellers had landed at Buenaventura on the Pacific coast in April 1898, and had thence crossed the

Andes, into the valley of the Cauca. This was ascended, and, passing through Popayán, Messrs. Goodfellow and Hamilton had entered the Republic of Ecuador at Tulcan, proceeding thence to Quito, where a lengthened stay was made. From Quito excursions were effected to Pichincha, and to the low country on the Pacific coast near Santo Domingo. Leaving Quito on March 1st last year, Messrs. Goodfellow and Hamilton crossed the Andes to the upper waters of the Napo, and descended that river in canoes to Yquitos on the Amazons, in Peru, whence the journey home was effected by steamer.

Mr. Goodfellow was preparing an account of the birds collected during this remarkable journey for 'The Ibis.' In the meanwhile Mr. Sclater called attention to two noticeable specimens. One of these was an example of a male Fruit-Crow (*Gymnoderus fœtidus*) in fully adult plumage. Mr. Sclater exhibited a coloured drawing, taken from the fresh specimen by Mr. Hamilton, of the head of this bird, showing the extraordinary development of the pale blue wattles of the neck, which had never been correctly represented or described, and were so different in appearance from ordinary specimens of this bird that Mr. Sclater had, at first, been inclined to regard the Ecuador bird as a distinct species. The second bird exhibited was an example of the little-known *Myiadestes coracinus* Berlepsch, from the forests of the Upper Napo.

No. LXXI. (April 30th, 1900).

The seventieth Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 25th of April, 1900. *Chairman*: P. L. Sclater, F.R.S. Forty Members and thirteen guests were present.

Mr. W. E. D. Scott described the following apparently new or hitherto undetected species of birds from South America. Some of these birds had been procured by

Mr. J. B. Hatcher in Patagonia, but most of them were previously represented in the collection of the British Museum.

CINCLODES OUSTALETI, sp. n.

Similis *C. patachonico*, sed multo minor, et abdomine medio albo distinguendus: alâ 3·55 nec 4·1, culmine 0·8 nec 1·0. Suprà chocolatino-brunneus, pileo dorso concolori: subtùs chocolatinus, nec grisescens, et minùs distinctè striatus. Long. tot. 6·5 poll., culm. 0·8, alæ 3·7, caudæ 2·5, tarsi 1·05.

Hab. Chile, and Mendoza in Argentina. [Type *ex* Central Chile: *Berkeley James Coll., Mus. Brit.*]

CINCLODES MOLITOR.

♂. Similis *C. oustaleti*, sed major et subtùs albido sparsim striatus, notæo et hypochondriis chocolatino-brunneis, sed abdomine brunneo nec albo et subcaudalibus albo striatis distinguendus. Long. tot. 7·5 poll., culm. 0·95, alæ 4·0, caudæ 3·0, tarsi 1·1.

Hab. Chile. [Type *ex* Chile (*Leybold*): *Salvin-Godman Coll., Mus. Brit.*]

CINCLODES OREOBATES, sp. n.

♂. Similis *C. fusco*, sed rufescentior: pectore fusco obscurè marmorato nec albido distinctè striolato: hypochondriis et subcaudalibus et rectricum apicibus rufescentibus nec grisescenti-brunneis: gutture albo, vix fusco fasciatim notato. Long. tot. 6·8 poll., culm. 0·85, alæ 3·9, caudæ 2·7, tarsi 1·2.

Hab. Colombia. [Type *ex* Sierra Nevada of Santa Marta, Colombia (*F. A. A. Simons*): *Sclater Coll., Mus. Brit.*]

CINCLODES SPARSIM-STRIATUS, sp. n.

♂. Similis *C. nigrofumoso*, sed subtùs vix albo striolatus, et gutture fusco, sordidè isabellino striato facile distinguendus. Long. tot. 8·7 poll., culm. 1·0, alæ 4·5, caudæ 3·2, tarsi 1·2.

Hab. Peru. [Type *ex* Islay (*H. Whitely*): *Sclater Coll., Mus. Brit.*]

UPUCERTHIA DARWINI, sp. n.

♂. Similis *U. dumetoriæ*, sed ubique rufescentior, alis caudaque præcipue rufescentibus: rectricibus medianis rufescentibus nec griseo-brunneis distinguendus. Long. tot. 8·2 poll., culm. 1·35, alæ 3·9, caudæ 3·15, tarsi 1·05.

Hab. Mendoza, Argentina. [*Salvin-Godman Coll., Mus. Brit.*]

UPUCERTHIA SATURATIOR, sp. n.

U. similis *U. dumetoriæ*, sed saturatior, hypochondriis concoloribus minimè striolatim notatis: suprà chocolatino-brunnea, regione parotica cervino nec albido striolata. Long. tot. 7·5, culm. 1·25, alæ 3·8, caudæ 3 0, tarsi 1·0.

Hab. Chile. [Type *ex* Central Chile: *Berkeley James Coll., Mus. Brit.*]

UPUCERTHIA FITZGERALDI, sp. n.

♀. *U.* similis *U. validirostri*, sed caudâ nigricanti-brunneâ nec rufescente, gutture albido, plumis angustè fusco fasciatim marginatis distinguenda. Long. tot. 8·2 poll., culm. 1·5, alæ 3·9, caudæ 2·75, tarsi 1·05.

Hab. Puente del Inca, Argentina, March 9, 1897 (*E. A. Fitzgerald, Mus. Brit.*).

GEOSITTA BREVIROSTRIS, sp. n.

♀. Similis *G. cunculariæ*, sed rostro multo breviore (0·65, minimè 0·8), alâ tamen longiore (4·20 nec 3·75), supracaudalibus lactescenti-albis, alâ minimè extus rufescente distinguenda. Long. tot. 6·0 poll., caudæ 2·25, tarsi 0·85.

Hab. Mt. Tigre, Patagonia, Aug. 14, 1896. [Type in Mus. Princeton, No. 7769.] Central Chile (*Berkeley James Coll., Mus. Brit.*).

HENICORNIS WALLISI, sp. n.

♀. Similis *H. phœnicuræ*, sed major, rostro longiore et alâ breviore, rectricibus medianis brunneis nec basaliter castaneis distinguenda. Long. tot. 7·0 poll., culm. 0·95, alæ 2·9, caudæ 2·65, tarsi 0·9.

Hab. Arroyo Eke, Patagonia, May 24, 1898. [Type in Mus. Princeton, No. 7939.] Chuput (*H. Durnford, Mus. Brit.*).

Named in honour of Harrison P. Wallis, Esq., of Brooklyn, N.Y.

AGRIORNIS LEUCURUS.

(*Agriornis leucurus*, Gould, Voy. 'Beagle,' Birds, pl. xiii. *nomen nudum.*)

Similis *A. maritimo*, sed minor, multò saturatior, et rostro longiore distinguendus. Suprà sordidè brunnescens nec cinerascenti-brunneus: corpore subtùs brunnescentiore, abdomine vix pallidiore. Long. tot. 8·5 poll., culm. 1·15, alæ 4·65, caudæ 3·2, tarsi 1·35. [Type in Mus. Brit. *ex* Port Desire, Patagonia (*C. Darwin*).]

PHRYGILUS PRINCETONIANUS, sp. n.

♂. Similis *P. melanodero*, sed minor: suprà grisescens, vix viridi lavatus: pileo et facie laterali clarè cinereis: palpebrâ, regione post-oculari, et strigâ latâ mystacali albis: plagâ lorali et gutture toto nigris: subtùs lætè flavus: alâ totâ conspicuè lætè flavâ, tectricibus primariorum nigro terminatis. Long. tot. 5·6 poll., culm. 0·5, alæ 3·6, caudæ 2·4, tarsi 0·85.

Hab. Cheike, Patagonia, Jan. 16, 1898. [Type in Mus. Princeton, No. 7698.]

Mr. SCLATER exhibited a third set of photographs of rare Australian birds' nests and eggs which had been forwarded to him by Mr. D. Le Souëf, of Melbourne. Amongst these were figures of the nests and eggs of several little-known Honey-eaters, also those of the *Oreœca cristata* and the suspended nest of Kaup's Flycatcher (*Arses kaupi*).

The rest of the evening was spent in examining the specimens of albinos and colour-variations of birds, most of which had been brought by Mr. Rothschild from his Museum at Tring. A full account of this exhibition is contained in a supplementary number of the Bulletin.

No. LXXII. (May 31st, 1900.)

Chairman: F. D. GODMAN, D.C.L., F.R.S. Forty-three members and five guests were present.

The Hon. WALTER ROTHSCHILD exhibited a specimen of *Burnesia gracilis* shot by his brother at Luxor, in Egypt, which was remarkable for its pronounced ashy-grey colour, and stated that when flying this species frequently carried its tail erect over the back like the Lyre-bird (*Menura*).

The Hon. CHARLES ROTHSCHILD exhibited a number of birds collected by him and Mr. Francis Gaynor on their journey from Cairo to Khartoum, among which were four species of Wheatear (*Saxicola*), two of *Merops, Lanius nubicus, Milvus migrans, Circus swainsoni,* and a young *Coccystes glandarius* from a nest of *Corvus cornix.* He also exhibited a very old male of *Anastomus lamellifer,* procured twenty miles to the south of Khartoum on the White Nile; this was believed to be the most northern locality recorded for the species.

The Hon. WALTER ROTHSCHILD exhibited a new Bird of Paradise, which he described as follows:—

" PAROTIA DUIVENBODEI, sp. nov.

" ♂ *adult.* Pectoral shield more extended and of a different shape, structure, and colour to that of either *P. sefilata, P. lawesi,* or *P. helenæ.* The shield, in fact, consists of a much larger number of rows of small and narrow feathers, which are also not so smooth. The ruff on the sides of the neck does not extend so far across the throat, and in consequence the metallic feathers of the pectoral shield itself reach further up on the throat, gradually diminishing in size and number. The black central shaft-patches on the lateral feathers of the shield are narrower and much less numerous. The colour of the pectoral shield is glittering metallic green, with a few feathers on the edges of the shield margined with blue, whereas in the three allied species the shield is of a brilliant coppery greenish-golden colour. There is no long erect tuft on the forehead, and the crest of feathers on the head is scarcely developed. The glittering occipital band of the other allied species of *Parotia* is replaced by a large triangular and rather wedge-shaped shield of metallic bluish-green feathers extending from between the eyes to the occiput.

"There is no white anywhere on the head, and the colour of the latter is of the same deep glossy purple as on the rest of the upper surface, *not* glossed with oily brown as in the three allied species. The first and second primaries are less abruptly emarginate than in the allied forms.

"In the specimen described there is only one head-plume on each side instead of three, and although Mr. Ernst Hartert and I have both examined most carefully the feathers of the head we have been unable to find traces of any more; but until a large series arrives, or we find a specimen with more of these ornamental plumes, it cannot be definitely determined that this is a good and real character of the species. Wing 150 mm., tail 115 mm., tarsus 38 mm., culmen 34 mm.

"*Hab.* Dutch New Guinea (Van Renesse van Duivenbode)."

Mr. ROTHSCHILD also exhibited two rare birds from the Ambernoh River, in Dutch New Guinea: *Nasiterna bruijni*, one of the smallest of Parrots, and *Chenorhamphus grayi*, a very rare Flycatcher, of which Wallace had obtained a single specimen (the type) at Sorong.

Dr. BOWDLER SHARPE described three apparently new species of birds obtained by Lord Delamere in British East Africa:—

SPIZOCORYS ATHENSIS, sp. n.

♂. *S. conirostri* affinis, sed valdè diversa: suprà alaudina, haud arenicolor: rostro corneo: subtus isabellino-alba, maculis præpectoralibus nigris notata: plagâ nigrâ ad latera colli conspicuâ, sed subalaribus et primariis intus cinerascentibus, illis obscurè arenaceo marginatis præcipuè distinguenda. Long. tot. 5·5 poll., culm. 0·55, alæ 3·5, caudæ 2·0, tarsi 0·8.

Hab. Athi River, Nov. 14, 1899.

A further interesting discovery was a second species of the genus *Pseudalæmon* of Lort Phillips (Ibis, 1898, p. 400):—

PSEUDALÆMON DELAMEREI, sp. n.

Similis *P. fremantlii* et eodem modo figurata, sed grisescens nec arenacea: corpore subtùs isabellino, hypochondriis brunnescentibus nigro angustè striolatis, et pectore evidenter nigro striolatim maculato distinguenda. Long. tot. 5·5 poll., culm. 0·7, alæ 3·5, caudæ 1·75, tarsi 0·8.

Hab. Athi River, Nov. 17, 1899.

ESTRILDA DELAMEREI, sp. n.

E. similis *E. erythronotæ*, et subcaudalibus abdomineque nigris, sed omninò pallidior, et fasciis alæ clarè margaritaceis nec cineraceis; notæo pallidè cinereo-vinaceo: gutture imo et præpectore pallidè roseis: hypochondriis rosaceis, nec coccineis, distinguenda. Long. tot. 4·7 poll., culm. 0·4, alæ 2·1, caudæ 2·25, tarsi 0·6.

Hab. Athi River, Nov. 8, 1899.

Dr. SHARPE gave a short account of the history of the B. O. C. and the work performed by the members since the foundation of the Club eight years ago.

Mr. MEADE-WALDO called the attention of the Union to the way in which rare birds were still being persecuted and destroyed in Great Britain. He felt sure that no member of the Union would willingly assist in bringing about this lamentable occurrence, but that in consideration of the persistency with which all our rare breeding birds were annually harried by British egg-collectors, and on that account of the great difficulty, if not impossibility, experienced by landed proprietors in preserving them, he considered that the time had come to make a supreme effort. He proposed the following resolution, which was seconded by Mr. H. M. Upcher, and carried unanimously:—

> "That any member of the Union, directly or indirectly responsible for the destruction of nest, eggs, young, or parent-birds of any of the species mentioned below —Osprey, Kite, White-tailed Eagle, Honey-Buzzard, Common Buzzard, Hoopoe, Golden Oriole, Ruff, Bittern, and Chough—should be visited with the severest censure of the Union."

A discussion ensued, in which the President and other members took part.

The Hon. G. Lascelles gave an interesting account of the efforts made by the Crown for the preservation of the birds in the New Forest. He lamented that, in spite of the strenuous efforts made, the keepers were only partially successful, although men were specially told off to guard the nesting-place of some rare species. He was pleased to say, however, that on some occasions their efforts had been rewarded with success.

Mr. Fitzherbert-Brockholes exhibited a remarkable nest, jointly constructed and inhabited by a Blackbird (*Turdus merula*) and a Hedge-Accentor (*Accentor modularis*).

XXXIV.—*Notices of recent Ornithological Publications.*

[Continued from p. 397.]

69. '*Annals of Scottish Natural History.*'

[The Annals of Scottish Natural History. No. 33, January 1900, and No. 34, April 1900.]

Mr. W. Berry opens the year with some remarks on the operation of the Wild Birds' Protection Act of 1894 in Fifeshire, especially in the "Tentsmuir" district. This was formerly stripped of the eggs of Plovers, Curlews, Terns, and Ducks (including the Eider), not only for eating, but largely to supply collectors and dealers, to whom large numbers used to be regularly despatched by rail. Since 1897, however, the law seems to have exercised a perceptible influence, and all these birds have increased in numbers, while the Shoveler Duck has been added to the list of breeders, and the Pintail requires to be included among the species requiring protection in that area. In the April number, rather earlier than usual, Mr. Laidlaw brings out his valuable report for 1899 on the movements and occurrences of birds in Scotland, in which among the rarest visitants may be noticed the Bee-eater in Shetland and the Pratincole near

Montrose, the latter being the second case on record for North Britain. The minor notices are valuable, but chiefly of local interest.

70. *Arrigoni degli Oddi on Veronese Ornithology.*

[Materiali per una Fauna Ornitologica Veronese con note di Vittorio Dal Nero del Prof. E. Arrigoni degli Oddi. Atti R. Ist. Veneto Sci., Lett. ed Arti, lviii. pt. 2, and Atti Soc. Ital. Sci. Nat. xxxviii. fasc. 1.

Note Ornitologiche della Provincia di Verona del Socio Prof. E. Arrigoni degli Oddi.]

These memoirs contain the results of the author's continued studies of everything connected with the avifauna of his native province, in compiling which he has received great assistance from Sign. Vittorio Dal Nero, of Verona. In the first of them a description of the physical districts of the Province of Verona is followed by a complete bibliography of the literature on the subject, an account of the special collections of the birds of the district, a description of the various modes of shooting and capturing birds practised, and a complete nominal list of the species, 330 in number. In the second memoir is a long series of field-notes on the 330 species, containing many particulars of interest to the student of Italian birds.

71. '*The Auk.*'

[The Auk. A Quarterly Journal of Ornithology. Vol. xvii. Nos. 1 and 2, January and April 1900.]

The coloured frontispiece to the January number illustrates a paper by Dr. J. A. Allen on the Little Black Rail (*Porzana jamaicensis*), a bird which was figured first by Edwards in 1760, and later on by Audubon. It has been recorded as breeding in the island to which it owes its name, as well as in several districts east of the Mississippi and South Connecticut; but, owing in some degree to its skulking habits, it has always been considered a numerically scarce species. Some supplementary remarks by Mr. Witmer Stone are to be found in the April number. Mr. A. H. Norton describes the perfectly developed plumage—especially the inner secondaries—in a mature drake of *Somateria spectabilis*; and Mr. Harry C. Oberholser distinguishes the Wren of the westernmost islands of the Aleutian chain as *Anorthura meligera*, sp. n. Mr. Ridgway's description of five new subspecies of American Jays and three of Fringillidæ may be left to the 'Zoological Record,' as may also those in the April number by Mr. S. N. Bishop of three new subspecies from Alaska, and by Mr. W. E. Nelson of yet another new subspecies of Wild Turkey, followed by proposed changes in nomenclature—an evergreen subject. An important paper by Dr. J. Dwight, Jr., on "The Moult of the North-American *Tetraonidæ* (Quails, Partridges, and Grouse)," extends from p. 34 to p. 51, and in the April number from p. 143 to p. 166, with two uncoloured plates. The Report of the Committee on the Protection of American Birds is, on the whole, encouraging, inasmuch as a general interest has evidently been awakened, and the promoters exhibit knowledge as well as zeal; but the opposition encountered from force and falsehood is shown on p. 94 in sentences which deserve to be widely read and circulated. Among the General Notes, the record of *Somateria stelleri* in the Gulf of St. Lawrence deserves mention, as being the "furthest south" occurrence of this species on the east coast of America.

In the April number Mr. Herrick has an interesting article on the "Care of Nest and Young," with four photogravures of parent birds attending to sanitary requirements. Mr. Allan Brooks (son of our much-regretted M.B.O.U.) contributes some notes on the birds of British Columbia, and records the unparalleled occurrence of the Ivory Gull (*Pagophila eburnea*) at the southern extremity of Lake Okanagan, in about 48° N., and far inland. This species is almost unknown on the western side of America, and rare even at Point Barrow, so that it seems probable that the route taken by this individual was by the Mackenzie River or by the Great Slave and the Great Bear Lakes. The name here employed for the Ivory Gull is still *Gavia alba*, the editors having overlooked for the moment that by the 9th Supplement of the

A. O. U. Check-List ('Auk,' 1899, p. 98) the Divers (the Urinatoridæ of 1898) became Gaviidæ; whereas elsewhere throughout these numbers *Gavia* is used for the Loons, which is confusing. Mr. Abbot H. Thayer sets forth his arguments against the "Banner-mark Theory," in reply to a paper by Mr. Ernest Seton Thompson in 'The Auk' for 1897 (*cf.* Ibis, 1898, p. 159), in which it was suggested that the colours of the upper parts were protective, whereas those of the underparts—exhibited by birds in flight or when raising their wings—were directive. Mr. Thayer's reply is more amusing, perhaps, than he intended it to be. Mr. Outram Bangs shows solid work in his review of the Three-toed Woodpeckers of North America; and Mr. C. W. Richmond acknowledges the researches of Mr. Sherborn in some further remarks on the date of Lacépède's 'Tableaux': a subject dear to searchers after priority. We have always maintained that the Herring-Gull of America cannot be separated specifically from the bird of North-western Europe, and it is satisfactory to find *Larus argentatus smithsonianus* dethroned by a good observer (pp. 63 and 169).

72. *Bangs on Birds from the Sierra Nevada of Santa Marta.*

[On some new or rare Birds from the Sierra Nevada de Santa Marta, Columbia. By Outram Bangs. Proc. Biol. Soc. Washington, xiii. p. 91.]

Mr. Bangs's fourth contribution to this highly interesting avifauna gives us an account of a collection of 1300 specimens recently made by his collector at altitudes of from 3000 to 15,000 feet on the Sierra Nevada of Santa Marta. Sixty-eight species are recorded, and the following new species and subspecies are characterized :—

Pharomachrus festatus, Metallura districta, Ochthodiæta pernix, Hapalocercus paulus, Myiopatis montensis, Pipreola aureipectus decora, Sclerurus albigularis propinquus, Conopophaga browni, Scytalopus latebricola, Haplospiza nivaria, Cinclus rivularis, Troglodytes monticola, and *Merula albiventris fusa.*

73. *Benham on* Notornis.

[Notes on the Fourth Skin of *Notornis.* By W. Blaxland Benham, D.Sc.Lond. Trans. N. Zealand Inst. xxxi. p. 146.

Notes on certain of the Viscera of *Notornis. Id. ibid.* p. 151.]

These two papers by Dr. Benham give us particulars of the fourth known specimen of *Notornis mantelli,* which was captured near Invercargill on the 7th of August, 1898. It proved, on examination, to be a young female in a "thoroughly healthy clean condition," so it is quite probable that there may be more of them in the bush of that district. The external characters are fully described in the first paper and the viscera in the second, and the latter are illustrated by two plates.

74. *Bingham on two new Birds from Burmah.*

[On a new Genus and Species of Bulbul and an apparently new Species of *Cyornis.* By Col. C. T. Bingham, F.Z.S. Ann. & Mag. N. H. ser. 7, v. p. 357 (1900).]

Col. Bingham describes a Bulbul, *Cerasophila thompsoni* (sp. et gen. nov.), from Loi-San-Pa (6500 feet), and a Flycatcher, *Cyornis brevirostris,* from Kalaw (4000 feet) in Upper Burmah.

75. *Chapman on two new American Grebes.*

[Description of two new Subspecies of *Colymbus dominicus* Linn. By Frank M. Chapman. Bull. Amer. Mus. N. H. xii. p. 255.]

Mr. Chapman proposes to separate the American Grebes allied to *Podicipes dominicus* into three subspecies, calling the two new forms *Colymbus dominicus brachyrhynchus* (from Brazil) and *C. d. brachypterus* (from Texas).

76. *Cheeseman on the Australian Snipe in New Zealand.*

[Notice of the Occurrence of the Australian Snipe (*Gallinago australis*) in New Zealand. By T. F. Cheeseman, F.L.S. Trans. N. Zealand Inst. xxxi. p. 105.]

The occurrence of the Australian Snipe (*Gallingo australis*) near Auckland is described. This is the first example recorded in New Zealand. The specimen is in the Auckland Museum.

77. *Forbes on Antarctic Birds in the Derby Museum.*

[Birds in the Derby Museum collected in the Antarctic Regions. Bull. Liverp. Mus. ii. p. 48 (1899).]

This paper gives an account of the specimens of Antarctic birds in the Liverpool Museum derived from the Museum of Lord Derby. They belong to eight species, amongst which no fewer than five are new to the Antarctic list lately compiled by Sclater (Ibis, 1894, p. 494), viz. *Nettion flavirostre, Ægialitis falklandica, Prion banksi, Podicipes calipareus,* and *Phalacrocorax atriceps.* All the specimens were obtained during the Antarctic Expedition by Sir J. Hooker and others, and are consequently authentic.

78. *Forbes on a new* Aplonis.

[On a new Species of *Aplonis*, in the Derby Museum, from Santa Cruz Island, in the Western Pacific. By Henry O. Forbes. Bull. Liverp. Mus. ii. p. 116 (1900).]

The *Aplonis* of Santa Cruz Island, hitherto erroneously referred to *A. rufipennis* of Layard, is named *A. maxwelli.*

79. *Forbes and Robinson's Catalogue of Pigeons and Sand-Grouse.*

[Catalogue of the Charadriomorphic Birds (*Charadriformes*): Auks (*Alcidæ*), Gulls (*Lariidæ*), and Skuas (*Stercorariidæ*)—Lari; Lark-Plovers (*Thinocoridæ*), Stone-Curlews (*Œdicnemidæ*), Jacanas (*Jacanidæ*), Sheathbills (*Chionidæ*), Crab-Plovers (*Dromadidæ*), Coursers (*Cursoriidæ*), Plovers and Snipes (*Charadriidæ*)—Limicolæ; Pigeons (*Columbæ*) and Sand-Grouse (*Pterocles*), in the Derby Museum. By Henry O. Forbes and Herbert C. Robinson. Bull. Liverp. Mus. ii. p. 117 (1900).]

This most useful Catalogue is continued on the same lines. The Columbæ are represented in the Derby Museum by 1304 specimens belonging to 342 species; the Pterocletes by 315 specimens belonging to 17 species. Both sexes of *Turturæna iriditorques* are figured, but the localities of the specimens are not stated.

80. *Hartert on the* Trochilidæ.

[Das Tierreich. 9. Lieferung, Aves. Trochilidæ, bearbeitet v. Ernst Hartert. Berlin: R. Friedländer u. Sohn. 1900. 254 pp.]

In this closely but very clearly printed brochure of 254 pages Mr. Hartert has managed to compress a complete synopsis of his favourite group of Humming-birds, on the preparation of which, as all our friends know, he has been long and busily engaged. There can be no doubt about the value and the convenience of this new handbook of a much studied and most attractive group of birds, and we heartily congratulate our fellow-worker in Ornithology at having brought it to so early and so successful a conclusion. The author allows but one family of Humming-birds, which he does not even consider divisible into subfamilies, so great is the general conformity in structure of all the members of this well-defined group. This family, however, he divides into 118 genera and 475 "certain" species (besides 33 "uncertain" species) and 130 subspecies. Salvin, the last monographer, allowed 482 species and no "subspecies." Mr. Hartert, we know, is a severe adherent of "priority" and has a right to his own views, but we cannot think he will be followed in hunting-up again such generic names as "*Colibri*," "*Ocreatus*," "*Popelairea*," and others, which have been rejected for excellent reasons. It would have been better to have adopted Salvin's lead in such vexed questions, which, after all, depend upon individual opinion. On the whole, however, we have here an excellent piece of work, which could have only been carried out by indefatigable exertions aided by an intense love of the subject. We wish it had been written in Latin (or English) instead of German, but that, we suppose, would not have suited the Editor of 'Das Tierreich.'

81. *Hartert on the Birds of Ruk, Carolines.*

[The Birds of Ruk, in the Central Carolines. By Ernst Hartert. Nov. Zool. vii. p. 1.]

Hombron and Jacquinot, during the voyage of the 'Astrolabe,' and Kubary, whose collections were worked out by Dr. Finsch (P. Z. S. 1880, p. 574), are the only previous authorities on the birds of Ruk. Mr. Hartert now writes on the large collections made there and transmitted to Tring by Mr. Alan Owston, of Yokohama, of which the most important features are the new *Tephras ruki* and a fine series of eggs and nests. Altogether 35 species of birds are now known from this island. Mr. Hartert makes a new subspecies, *Zosterops semperi owstoni*, which represents *Z. semperi* of the Pelews in Ruk, and incidentally describes two new subspecies of Finches as *Erythrura trichroa papuana*, from New Guinea, and *E. trichroa woodfordi*, from the Solomon Islands. Many notes on the eggs and nests are given in this paper.

82. *Hartert on the Birds of Dammer Island.*

[The Birds of Dammer Island, in the Banda Sea. By Ernst Hartert. Nov. Zool. vii. p. 12 (1900).]

Dammer is a volcanic islet halfway between Timor and Timorlaut, less than ten miles in length and five in width, and almost entirely covered by dense vegetation. It was visited by the surveying-ship 'Penguin' in 1891, and the ten species of birds of which examples were obtained on that occasion have been enumerated by Dr. R. B. Sharpe (Ann. & Mag. N. H. (6) xiv. p. 56, 1894). Mr. Hartert now treats of the birds collected on Dammer by Mr. H. Kuhn and sent to Tring in 1899, and refers them to 49 species, amongst which *Gerygone kuehni*, *Pachycephala melanura dammeriana*, *Halcyon australasiæ dammeriana*, and *Chrysococcyx rufomerus* are now described as new species or subspecies. Mr. Hartert thinks that some of the species hitherto only known from Dammer may likewise be met with on the neighbouring Serwatty group when it has been thoroughly explored.

83. *Hartert on Dr. Ansorge's African Birds.*

[Another small Contribution to African Ornithology. By Ernst Hartert. Nov. Zool. vii. p. 25 (1900).]

Dr. Ansorge, author of 'Under the African Sun' (see

Ibis, 1899, p. 457), in his third visit to Africa crossed that continent from east to west, passing through Uganda, Toro, and Fort George on Lake Albert-Edward, and thence through the "Great African Forest" by the Aruwimi and Congo to the west coast.

The collection of birds made during this arduous journey was naturally of a somewhat "fragmentary" character, but contains some interesting specimens. Mr. Hartert refers them to 172 species, upon many of which he gives us copious notes. Dates and localities are well registered. The following novelties are described in the course of the paper:—*Pterocles exustus orientalis* from India, *Pterocles gutturalis saturatior* and *Iyngipicus obsoletus ingens* from British East Africa, *Muscicapa toruensis* from Toru, *Mirafra africana transvaalensis* from the Transvaal, *M. a. tropicalis* from tropical East Africa, and *M. a. athi* from the Athi plains, B. E. A.

We much regret to observe that Mr. Hartert is beginning to commence his papers with the lower Orders first. This is a most inconvenient practice, and contrary to universal custom in all other Classes of animals, although, of course, we are too well aware that it is now becoming the fashion in Birds.

84. *Judd on Birds as Weed-destroyers.*

[Birds as Weed-Destroyers. By Silvester D. Judd, Ph.D. Reprinted from Year-book of Department of Agriculture for 1898.]

On behalf of the "Biological Survey" of the U.S. Department of Agriculture, Mr. Judd shows us that certain birds are useful as destroyers of noxious weeds, upon the seeds of which they mainly subsist. In North America many of the Finches, the Horned Larks, some of the Icteridæ, and the Mourning Dove belong to this category, and do a large amount of good to the agriculturist. No fewer than 50 birds, we are told in the summary, act as weed-destroyers and help to eradicate about 60 species of noxious plants. The whole subject is well treated of in this pamphlet of twelve pages, accompanied by illustrations of the birds and plants.

85. *Kearton on British Breeding Birds.*

[Our Rarer British Birds, their Nests, Eggs, and Summer Haunts. By Richard Kearton. Illustrated by Photographs by C. Kearton. 8vo. Cassell & Co.]

We can thoroughly recommend this little book (some 160 pages in all) for the beauty of its photogravures and the accuracy of its letterpress. Few naturalists have travelled so widely in the British Islands and taken so much pains to obtain good photographs as these two enterprising brothers. Some species are included which are not, strictly speaking, "rare," but the reason is that good examples of their nests were not available in 1895, when the work on 'British Birds' Nests' was published, to which this is a supplement; no one, however, will deny that epithet to the Kite, Osprey, Marsh- and Montagu's Harriers, Buzzard, and Great Skua, while Fulmars, Fork-tailed Petrels, and Red-necked Phalaropes have not often been photographed "at home." Mr. Kearton's remarks on the protection of our rarer species are eminently characterized by sense, as distinguished from sentiment.

86. *Mercerat on the* Stereornithes.

[Sur les Stereornithes. Par A. Mercerat. Comunicaciones del Mus. Nac. de Buenos Aires, tome i. p. 161 (1899).]

In this notice the author protests against certain opinions which he states have been attributed to him by Dr. Andreæ in a review (Neues Jahrbuch f. Min., Geol. u. Paleont. 1899, ii. pp. 322–330), and in which several inaccuracies occur. He further remarks that he regards the Stereornithes as a "gens" of the Order Pelargornithes of Fürbringer, and that they are related to the suborder Ciconiiformes as the Gastornithes are related to the Anseriformes: moreover, he expresses himself strongly in favour of the polyphyletic origin of the Ratitæ. In his remarks on a paper by Andrews published in this Journal (Ibis, 1896, p. 1), the opinion of that author, which was in favour of a relationship of *Phororhacos* to the Cariamidæ, is completely misstated.

As to the exact age of the deposits in which the Stereornithes are found, Mercerat states that he considers it to be somewhere between the Upper Eocene and Middle Miocene, a much more reasonable view than is held by some South-American writers.

87. *The Norwegian North Polar Expedition.*

[The Norwegian North Polar Expedition, 1893 1896.—Pt. IV. An Account of the Birds. By Robert Collett and Fridtjof Nansen. 4to.]

The first section of this small (54 pp.) but important work treats of the journey of the 'Fram' along the coast of Siberia, from July 29th until the closing-in of the ship to the north-west of the New Siberian Islands on September 25th, 1893. The birds observed were then chiefly on their way southward. The second section contains the observations made while the 'Fram' was drifting with the ice towards the north-west during the summer of 1894 and up to the time when Nansen and Johansen started on their daring sledge-journey on March 14th, 1895. It was in August 1894 that specimens of Ross's Wedge-tailed Gull (*Rhodostethia rosea*) were obtained—birds only just old enough to fly—and the descriptions of flight, habits, and plumage of this interesting species, supplemented by the coloured plate of "the youngest on record," are an attractive feature of the book. The species is, of course, mentioned again in the third section (Nansen and Johansen's sledge-journey) in reference to the obvious proximity of its breeding-place somewhere on the north-east side of Franz Josef Land; but no examples were obtained at that time, for powder and shot were far too valuable for procuring food to be expended on such small objects. The fourth section is devoted to the birds observed during the last two summers (1895–96) that the 'Fram' passed in the ice, when *Fulmarus glacialis* was seen on September 14th in lat. 85° N., "the highest latitude in which birds have ever been known to be observed." This is a most interesting contribution, from beginning to end.

88. *Oberholser's new Generic Names in Ornithology.*

[Some untenable Names in Ornithology. By Harry C. Oberholser. Proc. Acad. Nat. Sci. Philadelphia, 1899, p. 201.]

Mr. Oberholser's untiring energy has discovered a lot of names generally used for genera in ornithology which have been previously employed in other branches of zoology or are otherwise, in his opinion, inapplicable. We subjoin a list of the changes that he proposes, leaving his reasons to be ascertained by reference to the original paper. It must not be supposed, however, that Mr. Oberholser's proposals will meet with universal acceptance. Some of the rules that he follows, as well as his mode of carrying them out, would meet with decided disapproval from many of us. The claims of grammar and common sense are, in our opinion, far superior to those of "priority."

Name objected to.	*Name proposed.*	*Type.*
Micruria, *Grant*, 1898.	Endomychura, n. n.	*E. hypoleuca.*
Euhyas, *Sharpe*, 1898.	Zapterus, n. n.	*Z leucurus.*
Defilippia, *Salvad.*, 1865.	Hemiparra, *Salvad.*	*H. crassirostris.*
Phyllopezus, *Sharpe*, 1896.	Actophilus, n. n.	*A. africanus.*
Tapinopus, *Milne-Edw.*, 1892.	Diatropornis, n. n.	*D. ellioti.*
Orthocnemus, *Milne-Edw.*, 1892.	Idiornis, n. n.	*I. gallicus.*
Peristera, *Sw.*, 1827.	Claravis, n n.	*C. pretiosa.*
Harpe, *Bp.*, 1855.	Nesierax, n. n.	*N. novæ-zealandiæ.*
Pachynus, 1881.	Graydidascalus, *Bp.*	*G. brachyurus.*
Hemilophus, 1837.	Mulleripicus, *Bp.*	*M. pulverulentus.*
Dendrobates, *Sw.*, 1832.	Veniliornis, *Bp.*	*V. sanguineus.*
Harpactes, *Sw.*, 1837.	Pyrotrogon, *Bp.*	*P. ardens.*
Amazilia, *Reich.*, 1849.	Amizilis, *Gray.*	*A. amazili.*
Heteropelma, *Bp.*, 1854.	Scotothorus, n. n.	*S. turdinus.*
Metopia, *Sw.*, 1832.	Antilophia, *Reich.*	*A. galeata.*
Gymnocephalus, *Geoffr.*, 1809.	Perissocephalus, n. n.	*P. calvus.*
Heterocnemis, *Scl.*, 1855.	Sclateria, n. n.	*S. nævia.*
Homorus, *Reich.*, 1853.	Pseudoseisura, *Reich.*	*P. lophotes.*
Lymnophyes, *Scl.*, 1889.	Thryolegus, n. n.	*T. curvirostris.*
Oxyurus, *Sw.*, 1827.	Aphrastura, n. n.	*A. spinicauda.*
Eroessa, *Hartl.*, 1866.	Neomixis, *Sharpe.*	*N. tenella.*
Ellisia, *Hartl.*, 1860.	Nesillas, n. n.	*N. typica.*
Phlexis, *Hartl.*, 1866.	Cryptillas, n. n.	*C. victorini.*
Amytis, *Less.*, 1831.	Diaphorillas, n. n.	*D. textilis.*
Hemixus, *Hodgs.*, 1825.	Ixos, *Temm.*	*I. virescens.*
Cassinia, *Hartl.*, 1860.	Stizorhina, n. n.	*S. fraseri.*

Name objected to.	*Name proposed.*	*Type.*
Philentoma, *Eyton*, 1845.	Drymophila, *Sw.*	*D. velata.*
Symmorphus, *Gould*, 1837.	Diaphoropterus, n. n.	*D. leucopygus.*
Xerophila, *Gould*, 1840.	Aphelocephala, n. n.	*A. leucopsis.*
Euthyrhynchus, *Schl.*, 1873.	Timeliopsis, *Salv.*	*T. griseigula.*
Stictoptera, *Reich.*, 1862.	Stizoptera, n. n.	*S. bichenovii.*
Chera, *Gray*, 1849.	Diatropura, n. n.	*D. procne.*
Eucorystes, *Scl.*, 1883.	Zarhynchus, n. n.	*Z. wagleri.*
Calornis, *Gray*, 1841.	Lamprocorax, *Bp.*	*L. grandis.*
Dilophus, *Vieill.*, 1816.	Perissornis, n. n.	*P. carunculatus.*
Cuphopterus, *Hartl.*, 1866.	Horizorhinus, n. n.	*H. dohrni.*

89. *Oustalet on Birds from the Eschiras, West Africa.*

[Liste des Oiseaux recueillis par le R. P. Buléon dans le pays des Eschiras, en 1896, '97, et '98. Par E. Oustalet. Bull. Mus. d'Hist. Nat. Paris, iv. p. 356.]

A list of 19 species, with native names. It includes *Phasidus niger* and *Himantornis hæmatopus*—both rarities.

90. *Oustalet on some Birds from Western China.*

[Notice sur quelques Oiseaux de la Chine occidentale. Par E. Oustalet. Bull. Mus. d'Hist. Nat. Paris, iii. p. 208 (1897).]

In this paper (which has been unfortunately overlooked) M. Oustalet describes two new birds from Ta-tsien-lou—*Rhabdochlamys dejeani* (gen. et sp. nov. *Timeliadarum*) and *Parus dejeani*, and one from Yun-nan—*Alcippe genestieri.*

91. *Oustalet on the Birds of Dahomey.*

[Catalogue des Oiseaux du Dahomey remis par M. Miegemarque au Muséum d'Histoire Naturelle, en 1895. Par E. Oustalet. Bull. Mus. d'Hist. Nat. Paris, iv. p. 361.]

The only article yet published on the birds of Dahomey is that of De Souza (Jorn. Sc. Lisboa, xi. p. 217, 1887). M. Oustalet now gives us a list of 28 species represented in a collection lately made by M. Miegemarque in that French colony, and of 5 others of which specimens have been obtained in Dahomey by M. Dybowski. In order to make the list complete, the names of 16 other species previously recorded as obtained in Dahomey are added, making the whole number yet known 48. This is obviously but a very small part of the Dahomeyan avifauna.

92. *Oustalet on the Birds of Cambogia, Laos, Annam, and Tonquin.*

[Les Oiseaux du Cambodge, du Laos, de l'Annam et du Tonquin. Par M. E. Oustalet. Nouv. Arch. d. Mus. d'Hist. Nat. sér. 4, t. i.]

An account of the birds of the eastern portion of the great Siamese Peninsula, those of the western side being comparatively well known, was much wanted, and it is right that France, to whom the country mainly belongs, should undertake the task. M. Oustalet's memoir, now before us, is based on the rich collection of Indo-Chinese birds furnished to the National Museum of France by MM. Bocourt, Germain, Harmand, and many other contributors, commencing with Diard in 1824. It begins with the Parrots, of which 4 species are known from that country, and then proceeds to the Diurnal and Nocturnal Birds of Prey. The Barbets, Woodpeckers, Cuckoos, Trogons, Hornbills, Kingfishers, Bee-eaters, and Rollers of Indo-China are also discussed in the first part, making altogether 78 species. Coloured plates are added of *Picus* (*Gecinus*) *rabieri*, *Carpococcyx renauldi*, *Arboricola henrici*, and *Gennæus edwardsi*, all remarkable novelties, the last two being given in advance of the succeeding portions of this valuable memoir.

93. *Palmer on the Introduction of Noxious Birds.*

[The Danger of Introducing Noxious Animals and Birds. By T. S. Palmer. Reprinted from Yearbook of Department of Agriculture for 1898.]

The danger of introducing noxious animals and plants into strange countries is well known, and many examples of this evil practice are familiar to us. It is not the less necessary, however, that the general public, amongst whom are many with a rage for "acclimatization," should be cautioned against it, and we are glad to see that the Agricultural Department of the U.S. has taken up the question.

Every one interested in the subject should study Mr. Palmer's well-written account of the facts bearing on it, and carefully consider the seven conclusions of his summary.

94. *Robinson on Species of* Zosterops.

[Note on Three Rare and not hitherto figured Species of *Zosterops* in the Derby Collection. By H. C. Robinson. Bull. Liverp. Mus. ii. p. 47 (1899).]

Mr. Robinson comments on three little-known species of *Zosterops* represented in the Liverpool Museum (*Z. chlorates, Z. aureiventris*, and *Z. griseiventris*), of which figures are given.

95. *Robinson on Birds from North Queensland.*

[Contributions to the Zoology of North Queensland. By H. C. Robinson. Bull. Liverp. Mus. ii. p. 115 (1900).]

Mr. Robinson remarks on three birds from the Cooktown district—*Trichoglossus novæ-hollandiæ, Dacelo gigas*, and *Prionodura newtoniana*. Of the first he makes a new subspecies, *T. n.-h. septentrionalis*. The second he suggests as being doubtfully subspecific under the name *D. g. minor*. Of the third he records the range as extending to Mount Peter Botte, 50 miles south of Cooktown, and one stray specimen as shot near Cooktown.

96. *Salvadori on a new Parrot.*

[Viaggio del Dr. A. Borelli nel Matto Grosso e nel Paraguay. I. T. Salvadori.—Nuova specie del genere *Pyrrhura*, Bp. Boll. Mus. Zool. ed Anat. R. Univers. Torino, xiv. no. 363.]

Count Salvadori describes as new *Pyrrhura hypoxantha*, from Matto-Grosso (*Borelli*), remarkable for its yellow under surface.

97. *Salvadori on Birds from the Cape Verde Islands.*

[Collezioni Ornitologiche fatte nelle Isole del Capo Verde da Leonardo Fea studiate da Tommaso Salvadori. Ann. Mus. Civ. Stor. Nat. Genova, ser. 2, xx. p. 283.]

The birds collected by Sign. Leonardo Fea in 1897 on the islands of the Cape Verde group, 308 in number, are referred to 47 species, of which 11 are new to this avifauna. A useful bibliography of previous authorities on the birds of these islands is given. It appears that Capt. Boyd Alexander, who has recently written two articles on the subject (see Ibis, 1898, p. 14 and p. 277), has overlooked M. Oustalet's "Description d'espèces nouvelles d'Oiseaux provenant des îles du Cap Vert" (Ann. Sc. Nat., Zool. sér. 6, xvi. art. v.), in which *Puffinus edwardsi* and *Passer brancoensis* were described as new. Count Salvadori considers the former to be the same as *Puffinus mariæ* of Alexander, and the latter not different from *Passer jagoensis*.

98. *Salvadori and Festa on the Birds of Ecuador* (part 3).

[Viaggio del Dr. Enrico Festa nell' Ecuador. Uccelli. Parte 3. Trochili, Tinami. Del T. Salvadori ed E. Festa. Boll. Mus. Zool. Università di Torino, xv. No. 368.]

This third part brings to a conclusion Count Salvadori's valuable memoir on Dr. E. Festa's splendid collection of the birds of Ecuador. We have already (Ibis, 1900, p. 393) noticed the first and second parts, which were devoted to the Oscines and Clamatores, and enumerated the 345 species of Passeres represented in Dr. Festa's series. In the third part the remaining Orders are treated of. They contain examples of 268 species, 34 of which are new to the avifauna of Ecuador. Four species are described as new to science—*Chloronerpes rubripileus*, *Capito æquatorialis*, *Pulsatrix fasciativentris*, and *Penelope æquatorialis*.

In his concluding remarks the author states his views as to the physical divisions of Ecuador, which he recognizes as four in number—the Occidental, the Inter-Andean, the Andean, and the Oriental, and states the principal forms of bird-life typical of each of these divisions.

99. *Seebohm's 'Monograph of the Thrushes.'*

[A Monograph of the Turdidæ, or Family of Thrushes. By the late Henry Seebohm. Edited and completed (after the Author's death) by R. Bowdler Sharpe, LL.D., F.L.S., &c. Part VIII. Imperial 4to. London: Henry Sotheran & Co., 1900.]

The following species are beautifully figured in the eighth part of Seebohm's posthumous work on the Thrushes, now being issued and completed under the editorship of Dr. Bowdler Sharpe:—*Merula rufitorques, M. serrana, M. leucops, M. infuscata, M. samoensis, M. mareensis, M. gigas, M. gigantodes, M. cacozela, M. nigrescens, M. nigrorum,* and *M. nigropileus.* Other unfigured species are introduced into the letterpress. We venture to think that the number of Neotropical Blackbirds has become somewhat unduly augmented of late years. It is allowed that in some cases the males are nearly or quite indistinguishable, and that specific characters can be detected only in the females. But are the females of the same locality always exactly similar?

100. *Shelley's 'Birds of Africa,'* vol. ii. pt. 1.

[The Birds of Africa. By G. E. Shelley, F.Z.S., F.R.G.S. Vol. II. Pt. 1. London: Porter, 1900. 8vo. Pp. 160. 6 coloured plates. Price 21*s.* net.]

Our valued friend and fellow-worker has commenced his laborious task of describing the 2534 birds of the Ethiopian Region, of which he catalogued the names in the first volume of this work (see Ibis, 1896, p. 419). The present portion of vol. ii. contains the Pittidæ and Philepittidæ, and the whole of the Nectariniidæ—the last a very numerous group in Africa, comprising upwards of 80 species. These are all diagnosed and described, and every necessary particular is given concerning their distribution, nesting-habits, and other known peculiarities.

The 'Birds of Africa,' when complete, promises to be of first-rate importance to ornithological science.

101. *Suschkin on the Skull of* Tinnunculus.

[Zur Morphologie des Vogelskelets. I. Schädel von *Tinnunculus.* Von P. P. Suschkin. Nouv. Mém. Soc. Imp. d. Nat. Moscou, xvi. livr. 2 (1899).]

Dr. Suschkin requires 150 pages of quarto—distinctly verging upon folio—to state what he has to say about the development of the skull in *Tinnunculus alaudarius.* For those who are unable to read this extended memoir the author has provided a preliminary account in the 'Anatomischer Anzeiger' for 1896. The results of this inquiry are of some interest to taxonomists. The author finds that in the developing skull there is a temporary phase of schizognathism; and, more than this, that the vomer is for a time forked in front; the skull therefore at a certain period is distinctly suggestive of that of a Limicoline bird. Such facts, thinks the author (and there are corroborations), do not decidedly negative the view of Forbes and some other writers that the Accipitrines should be relegated to the neighbourhood of the Storks. But on the whole these facts do not necessitate such a placing. Dr. Suschkin does not suggest an alternative. It may, perhaps, be pointed out that in the features mentioned, as well as in the temporary existence of occipital fontanelles, there is an equal likeness to the Crane tribe. It has already been urged by the late Prof. Parker and by others that *Cariama*, a Crane in the wider acceptance of the term, is by no means unlike an Accipitrine. That the group of Cranes may form a basal group connected with the Accipitres, as well as perhaps with other forms, is a view urged by Mr. Beddard in his 'Structure and Classification of Birds.' This is far from being contradicted by Dr. Suschkin's important discoveries in the skull of the Accipitrine chick.

102. *Wyatt's Second Volume of 'British Birds.'*

[British Birds: with some Notes in reference to their Plumage. Coloured Illustrations. Vol. II. By Claude W. Wyatt, M.B.O.U. Folio. London, 1899.]

The second volume of Mr. Wyatt's 'British Birds' contains illustrations of all the Passerine birds which are migrants to the British Islands, the occasional visitors being left out. To these follow figures of the resident and migrant *Picariæ, Striges, Accipitres,* and *Columbæ,* according to the arrangement and nomenclature of the B.O.U. List of British Birds. As in the Passeres, the occasional visitors are omitted. The number of species treated of in this volume is 53. We can hardly speak too highly of Mr. Wyatt's figures, which are the work of his own industrious pencil. The backgrounds also show great artistic talent, and the colouring, executed by the Misses Sharpe, is much to be praised.

We can scarcely doubt that this series of volumes, which, when complete, will contain figures of all the British Birds ordinarily met with, will attain great popularity.

XXXV.—*Obituary.*

Dr. E. D. Dickson, C.M.Z.S., Dr. St. George Mivart, F.R.S., and Prof. Alphonse Milne-Edwards, F.M.Z.S.

In 'The Times' of March 28th last we find recorded the death on the previous day, at Constantinople, of **Edward Dalzel Dickson**, one of the oldest Corresponding Members of the Zoological Society of London, having been elected to that honour in 1840. In the first series of the Zoological Society's 'Proceedings' will be found several communications from this formerly active correspondent, who, in 1839, in conjunction with Mr. H. J. Ross, transmitted to that Society numerous specimens of birds obtained in the neighbourhood of Erzeroum, where he was then resident (see P. Z. S. 1839, pp. 119, 130). These were determined by Louis Fraser, at that time Curator of the Society's Museum, and their names were recorded in the 'Proceedings,' accompanied by the collectors' notes. So far as we know, they are still almost the only authority on the birds of this high district of Asia Minor. Dr. Dickson was for many years Physician to the British Embassy at Constantinople, and there made a considerable collection of the fishes of the Bosphorus, which was presented in 1839 to the British Museum (see P. Z. S. 1839, p. 135). After retiring from his official post, he settled again at Constantinople, and died there on the 27th of March last at an "advanced age."

Dr. **St. George Mivart**, F.R.S., Vice-President of the Zoological Society and a Member of the B.O.U. since 1892, whose form and voice were familiar to all attendants at the principal Biological Societies of the metropolis, died at his residence in London on the 1st of April last. Mivart was born in London in 1827, and was educated at King's College and Oscot. Although called to the Bar, he devoted his time and talents almost entirely to scientific and literary pursuits, and, besides writing numerous works, chiefly biological, was a constant contributor to some of our best-known periodicals and reviews. Mivart was also an accomplished speaker, and was at one time Lecturer at St. Mary's Hospital Medical School, and subsequently Professor of Biology at University College. It is not necessary on the present occasion to enter into his well-known controversies with Professor Huxley, and more recently with Cardinal Vaughan, but we must not omit here to allude to his ornithological work, which was of considerable importance. Mivart had a good knowledge of the osteology of Birds, and published valuable memoirs on the axial skeletons of the Ostriches and of the Pelicans in the Zoological Society's 'Transactions,' and on the hyoids of the Parrots in the same Society's 'Proceedings.' In 1892 he issued a useful 'Manual on the Elements of Ornithology' (see Ibis, 1892, p. 568), and in 1896 a quarto Monograph on the Lories, beautifully illustrated by Keulemans. But it cannot be said that he greatly increased our knowledge of this splendid group of birds, except as regards its osteology and distribution, which were carefully studied and explained in the last-named work.

The late Professor ALPHONSE MILNE-EDWARDS, well known to all of us who have had occasion to consult specimens in the Muséum d'Histoire Naturelle of Paris, or in the adjoining Menagerie of the Jardin des Plantes (of both of which well-known institutions he was the administrative Director), ought not, perhaps, to be called an ornithologist in the narrow sense of that term usually applied to it, but had a large and varied knowledge of the whole Animal Kingdom, and was the author of several important works on the Class of Birds. The son of Henri Milne-Edwards, also a well-known zoologist, he was born in Paris in 1835, and took his medical degree in 1859. He may be said to have passed almost his whole life in the Jardin des Plantes, where he was appointed deputy for his father in 1876. In 1891 he was elected Director of the Muséum d'Histoire Naturelle and of the Menagerie, as already mentioned, and held these posts until his death on the 21st of April last. Milne-Edwards's first work on Birds, published in 1866, related to the osteology of the Dodo, to which subject, as well as to the allied and other extinct birds of the Mascarene Islands, he paid considerable attention. But the great feat for which he must always deserve the gratitude of the students of this class of animals was his 'Recherches Anatomiques et Paléontologiques pour servir à l'Histoire des Oiseaux Fossiles de la France,' which was completed in four volumes in 1872. This excellent piece of original work will be found well spoken of in 'The Ibis' for 1866 (p. 413), and we quite coincide with what was there said of its great merits.

Alphonse Milne-Edwards was also joint author, along with M. Grandidier, of the two volumes on birds which form part of the grand series of the latter's 'Histoire Physique, Naturelle et Politique de Madagascar.' This portion of the work was finished in 1879, and is the chief authority on the members of that most strange and interesting Ornis. More recently (1893) he published, in conjunction with M. Oustalet, in the volume which commemorates the centenary of the foundation of the Muséum d'Histoire Naturelle of Paris, a memoir upon birds now extinct of which specimens are contained in the Museum (see Ibis, 1894, p. 410). A reference to the General Subject-Index of 'The Ibis,' recently issued, will supply the titles of various other works of the deceased naturalist relating to the Class of Birds; but enough, we think, has been said to show that Alphonse Milne-Edwards during his busy life made many excellent contributions to our knowledge of the Class of Birds, on the osteology of which, indeed, he was one of our best authorities.

XXXVI.—*Letters, Extracts, Notices, &c.*

We have received the following letters, addressed "to the Editors of 'The Ibis'":—

Sirs,—In reply to Count Salvadori's letter in the last number of 'The Ibis,' I think the following remarks will prove of interest.

The British Museum collection contains only five fully adult red-billed examples of *Oriolus monachus*: in all these birds the subterminal black band across the outer tail-feathers is either very *faintly indicated or obsolete.* Count Salvadori has kindly sent me four fully adult red-billed examples of this species for comparison. These differ in a marked degree from the specimens in the British Museum, inasmuch as all have the black subterminal band on the outer tail-feathers strongly developed, though they differ one from another. For example:

a. ♂ ad. Kagima, Shoa. The black band on the outer tail-feathers is very strongly developed; 1·3 inch wide.

b & *c.* ♂ ad. Forest of Fekerie-ghem. The black band is much narrower; in *b* 0·7 inch wide, in *c* 0·4.

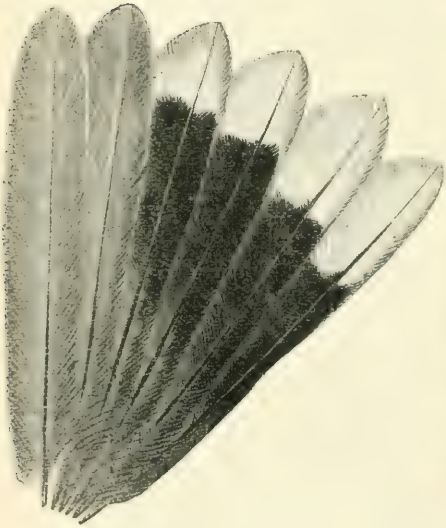
d. ♀ ad. Daimbi. The black band is very strongly developed; about 1·4 inch wide.

It will thus be seen that, on comparing the four adult birds sent by Count Salvadori from the Turin Museum with the five in the British Museum, there is a marked difference between the two series; for while the British Museum specimens (fig. 2, p. 566), though fully adult birds, show hardly a trace of the black subterminal band across the outer tail-feathers, which is said by Count Salvadori to denote maturity, this character is strongly marked in the specimens sent from Turin (fig. 1, p. 566).

Count Salvadori has also kindly sent me for examination three immature specimens of *O. monachus.* All these have the tail similar to that of *our adult birds* and show scarcely a trace of a black subterminal band. On the other hand, the black-billed type of *O. meneliki,* which Count Salvadori considered to be the young of *O. monachus,* has, as the description notes, the black subterminal band across the tail *well developed*, as in the adult birds sent by Count Salvadori.

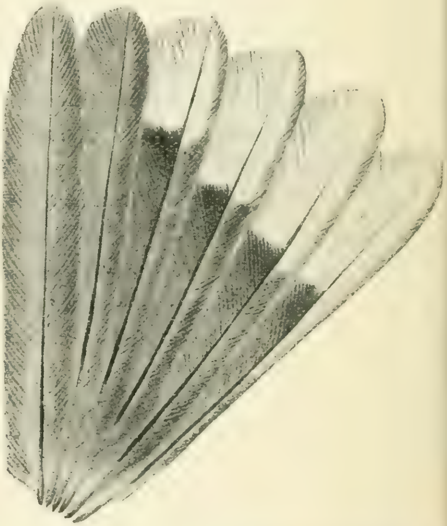
Again, comparing the Museum series of five adult specimens of *O. monachus*, plus the type of *O. meneliki*, with the whole series from the Turin Museum, we find the characters of the markings on the outer tail-feathers entirely reversed; for the former leads one to believe that the adult has no subterminal band and that the young has, whereas in the Turin series the reverse obtains.

Fig. 1.



Six lateral rectrices of specimen *a* (♂ ad.) of *Oriolus monachus* (Mus. Torin.).

Fig. 2.



Six lateral rectrices of *Oriolus monachus*, adult specimen with black band most defined (Mus. Brit.).

But, after all, I have very little doubt that Count Salvadori is right, and that all the birds mentioned above belong to one species, *O. monachus*; and that the presence or absence of the black subterminal band across the outer tail-feathers is of very little importance, being characteristic of neither age nor sex. Under the circumstances the mistake was almost unavoidable, and though I regret having advised Mr. Weld-Blundell and Lord Lovat to describe as a new species what now appears to be an old one, there was, as I have shown, every excuse for such an error of judgment.

Yours &c.,

W. R. Ogilvie Grant.

British Museum (Natural History),
May 1st, 1900.

Sirs,—I have lately returned from Palermo, where I made a most pleasant visit to my friend Mr. Joseph S. Whitaker at his beautiful villa of Malfitano. Among the many attractions of the place, one of the most interesting is the new Zoological Museum, situated in the beautifully wooded grounds, close to the villa, which was opened on the first day of the current year, 1900. On visiting the museum, after ascending a short flight of white marble steps, and passing through a vestibule, one enters a spacious hall or gallery, illuminated by top-light. Ranged round the walls of this hall are large glass cabinets, containing mounted specimens of Italian and Sicilian birds; also some collections of small mammals from Sicily, Tunis, and Marocco, and two cabinets containing birds' eggs. On the walls are some magnificent heads of red deer from North Italy, and a good collection of gazelle- and antelope-heads from Tunisia. Among other trophies which adorn the walls is a fine head of the alpine ibex, killed by Umbert, King of Italy, in the Val d'Aosta, and presented by His Majesty to Whitaker. There is also the head of a fallow-deer, which was shot by Victor Emanuel. In the centre of the hall, directly under the skylight, are ten large cabinets, containing the extensive collection of birds formed by the late Lord Lilford, which was purchased by Whitaker after the death of our late esteemed President, and is preserved intact by its present owner. This collection, which is very complete as regards birds from the Mediterranean district generally, and Spain in particular, is especially rich in Raptores, and can also boast of a very fine series of skins of that rare Gull, *Larus audouini*, of which there are seven or eight fine specimens, all collected by Lord Lilford himself on the coasts of Sardinia. The cabinets containing this large collection are very crowded, and the specimens are not yet arranged in scientific order.

Perhaps the most interesting part of the Museum, and certainly that in which Whitaker takes chief pride and delight, is the very fine series of Tunisian birds collected by himself during his many expeditions in the interior of the Regency. This collection, which is in the skin, is kept in cabinets in a smaller room adjoining the great hall, which is also used as a study, and is fitted up with libraries. The Tunisian collection, as also a collection from Marocco, contains types of several new species and subspecies, and is especially rich in Larks and Chats, among the latter possessing several specimens of that rare, recently discovered species, *Saxicola seebohmi*. The museum also has its working-rooms and a curator.

Whitaker has also, this year, been again successful in breeding Porphyrios. A pair of these birds (*Porphyrio cæruleus* Vandelli) made a nest on the ground among the stems of a clump of bamboos soon after the middle of last March, while I was staying at Malfitano. The nest was rather large, and was constructed chiefly of dry bamboo-leaves. I was never able to see the eggs, for from the time the first egg was laid one of the parent birds, and occasionally both, was always on the nest. I have since heard from Whitaker that the brood has been successfully hatched.

Yours &c.,

E. CAVENDISH TAYLOR.

Florence, April 20th, 1900.

SIRS,—Although not a member of the B. O. U., I have for many years been a subscriber to 'The Ibis,' and possess the entire set from 1859 to the present date. This is my excuse for taking the liberty of offering a suggestion which will, I think, make your publication more useful to subscribers abroad.

It is only a small matter in connection with your valuable "Notices of Recent Ornithological Publications"—viz., that you should insert at the end of the title of book mentioned the price. Very often one living at such a distance from London as I do has to write home for the price before knowing whether the work in question will come within the compass of his purse, thus wasting at least four months, which would be saved if the prices of books were appended to the notices. I may say that Colonial booksellers do not import technical books, for which there is a small sale, unless specially ordered.

Trusting you will forgive me for troubling you with this suggestion.

Yours &c.,
George Hurst, M.B.

Bathurst, N.S.W.,
29th January, 1900.

[We have received other communications to the same effect, and when the new series commences it is probable that the Editors will endeavour to meet the wishes thus expressed. But it must be recollected that the separate copies which abound in ornithological literature are not usually on sale, and cannot be priced.—Edd.]

Sirs,—On May 11th, 1900, Mr. George Bristow of this town asked me to examine a small Warbler which had been shot the day before and sent to him, along with some other small birds, from Ninfield, Sussex. On handling this bird "in the flesh," I at once suspected it to be the Melodious Warbler, *Hypolais polyglotta* (Vieill.), and shortly afterwards, on taking Mr. Ernst Hartert to view the specimen, he agreed with me in referring it to that species. Mr. Hartert was able to match it with examples of *H. polyglotta* from the south of France. More recently, Mr. Howard Saunders has examined the bird, and writes that he is quite satisfied that it has been rightly identified. It proved on dissection to be a male.

The present is the second record of the undoubted occurrence of *H. polyglotta* in the British Islands. Some remarks upon the range and distinctive features of the species will be found in 'The Ibis,' 1897, pp. 627, 628.

Although I heartily deplore the destruction of such ornamental visitors as the Hoopoe and the Avocet, and of such residents as the Chough and the Bearded Tit, I cannot entertain the same feelings in regard to the shooting of examples of such species as the Melodious Warbler. I do not think the passing observation of a species not easily identified should be accepted as sufficient evidence of its occurrence, except in a few cases. For instance, I have seen, *and heard*, as I believe, the closely allied *H. icterina* on two occasions in Sussex, but until the bird has been obtained I cannot ask others to accept my identification.

Yours &c.,

W. Ruskin Butterfield.

4 Stanhope Place,
St. Leonard's-on-Sea,
28th May, 1900.

New Fossil Bird from the Stonesfield Slate.—At the meeting of the Geological Society on March 21st last, Prof. Seeley described a supposed new fossil bird from the Stonesfield Slate as follows:—

"During his residence at Oxford the late Earl of Enniskillen made a collection of Ornithosaurian bones from Stonesfield, which was acquired by the British Museum in 1866. Among these is one identified by the author in 1899 as the right humerus of a bird about as large as a Flamingo. The bone is complete, except for fracture through the proximal articulation, and the specimen is, on the whole, well preserved. The chief characters available for comparison are the form of the shaft, the character of the proximal end, especially the ulnar tuberosity and the radial crest, and the form of the distal end. The character which first showed the fossil to be a bird was the ulnar tuberosity; probably the Flamingo approaches as closely as any living genus to the Stonesfield fossil in this feature. The radial crest shows affinities with those of the Flamingo and the Eider-Duck. The impression left by the humero-cubital muscle on the external surface above the condyles is almost identical with that seen in the Flamingo. 'The varied affinities of this large Carinate bird appear to lie midway between the Ducks and Geese on the one side, and the Herons and Flamingos on the other. It may be placed in a new family; but its characters are in all respects such as might have occurred in an existing bird. There is no indication of affinity to *Archæopteryx*, or that the bird diverged in any way from modern types.'"

Lecture on Albatrosses.—At the Museum, Brassey Institute, on April 10th, Mr. Thomas Parkin, M.A., M.B.O.U., gave a lecture to the members of the Hastings and St. Leonard's Natural History Society on the Albatrosses. A special feature of the lecture was the exhibition of no fewer than fourteen out of the seventeen forms that are admitted to specific rank by ornithologists. This splendid exhibition was rendered possible by the kindness of the Hon. Walter Rothschild, M.P., of Tring, Herts, and also by the kind services of Dr. Ernst Hartert, the accomplished Director of the Museum there. Mr. Parkin further produced examples of the eggs of several of the species, some from his own cabinets, and others from the choice collections of Mr. Rothschild.

New Work on the Eggs of Australian Birds.—The 'Catalogue of Nests and Eggs of the Birds of Australia,' by Mr. Alfred J. North, Ornithologist to the Australian Museum, which was published by the Trustees of the Australian Museum in 1889 as No. xii. of their series of Catalogues, is now out of print, and the Trustees have decided to issue a new work in an enlarged form by the same author. There will be representations of about 600 eggs on 30 full-sized plates, and arrangements are being made to have them hand-coloured for those who desire it. Some of the nests and breeding-haunts of the birds will also be shown on full-sized plates, but the greater number will be interspersed among the text, where also many the birds themselves will be figured. The photographs, from which the plates representing the nests are made, have mostly been taken by the author personally, many of them *in situ,* and show the actual surroundings of the birds' homes. The black and white drawings of the birds are by Mr. Neville Cayley, so well known for his life-like drawings and paintings of birds. The letterpress will contain descriptions of the birds, their nests, eggs, and haunts, and an account of their life-history.

The preparation of the plates is now well advanced. The work will be issued in parts, as the letterpress can be got ready. The price to subscribers will probably not exceed 25 shillings for the complete work, uncoloured.

Capt. Boyd Alexander.—Our excellent correspondent Capt. Boyd Alexander, of the 7th Rifle Brigade (who is always somewhere "in the front"), has been seconded, and has left England for service with the Gold-Coast Constabulary. In a letter, dated on board the R.M.SS. 'Jebba,' on May 22nd, he writes that he was expecting to join the Relief Column for Coomassie at Cape Coast, and "hoped to see a little bit of active service." Just at present, he feared, he would hardly be able to make a collection of birds, but Capt. Alexander is sure to keep his eyes open.

The new Catalogue of Eggs.—Mr. Oates's 'Catalogue of the Birds'-Eggs in the Collection of the British Museum,' the first volume of which is in the press, will make altogether four volumes, each with about 15 plates. The total number of specimens dealt with is estimated at 60,000. The classification of the 'Hand-list of Birds' will be followed. References to the particular eggs contained in the Collection will be added, together with descriptions, measurements, and other details.

THE IBIS.

SEVENTH SERIES.

No. XXIV. OCTOBER 1900.

XXXVII.—*On the Birds collected by Capt. A. W. S. Wingate in South China.* By W. R. Ogilvie Grant.

(Plate XII.)

Towards the end of September 1898, Capt. A. W. S. Wingate started from Shanghai on his adventurous journey through Southern China to Bhâmo, a distance of 2360 miles by the route followed. On arriving at Hankau, on the Yang-tse-Kiang, he chartered a boat and engaged a couple of Chinese servants, one of these being a taxidermist named Wang, with whose assistance Capt. Wingate made an interesting and valuable collection of zoological specimens, which he has most generously presented to the British Museum. Over 150 specimens of birds were obtained, and form the subject of the present paper.

Capt. Wingate says*: "The collection of these afforded considerable amusement to the Celestials, who thought that I wanted the birds and fish to eat, the insects and snakes for medicines, and the shells as charms The Chinese are very fond of birds, and in Pekin every other man carries one about the streets. They train them to fly high in the air and return to their master's cage. They have 'gymkhanas' for their birds, and the one that flies highest wins the bets. They don't like people killing small birds."

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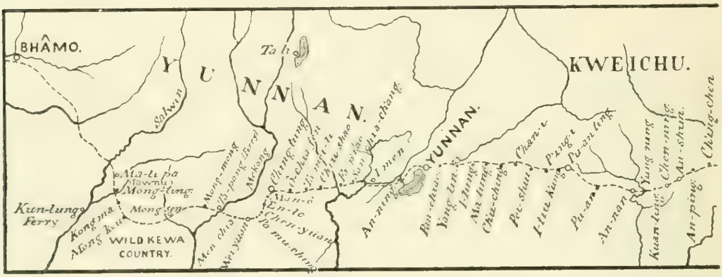
* 'Things Chinese,' a lecture read 3rd October, 1899, before the United Service Institution of India.

From an exploration point of view, the journey only commenced at Yo-chu, a new treaty port at the entrance to the Tung-ting Lake. Skirting the south of this magnificent sheet of water, Capt. Wingate traversed Hunan, following the course of the Yuan River to its commencement at Chien-yang, and proceeded thence along its northern confluent, the Wu-ho, as far as Chen-yüan, which was reached at the end of December. Through Kweichu and Yunnan, his line of march lay nearly due west, past the cities of Kwei-yang, Pu-an-ting, Yunnan, and Ching-tung. After crossing the Upper Mekong River into the Kewa country, Capt. Wingate continued his western course as far as a place called Mong-kou; but there he found his way barred by hostile tribes, and was obliged to turn north and make for Bhâmo, which was reached on the 20th April. From the interesting account of his journey recently published in the 'Geographical Journal'*, I quote the following passages :—


BHÂMO.
YUNNAN.
Ta li
Salwin
Ma-li-pa (Tawnio)
Mong-lung.
Kun-lung Ferry
Kong ma
Mong ku
Mong sen
WILD KEWA COUNTRY.
Mong-mong
Pi-pong (Ferry)
Mekong
Ching-tung
I-chia fen
Man-o
En-lo
Chen-yuan
Po mu-ching
Men chia
Wei yuan
Chiu shao
Sin pi
Chia-chang
I men
An-ning
YUNNAN.
Yang lin
I-lung
Ma lung
Chu-ching
Pei-shui
Chan-i
Ping-i
I-tzu kung
Pu-an ting
Pu-an
An-nan
KWEICHU.
Yung ning
Kuan-ling
Chen-ning
An-shun
An-ping
Ching-chen

"No sketch has, I believe, ever been made, nor have levels been taken, along this route from Yo-chu to Kwei-yang city; and about 400 to 500 miles are in absolutely new country, especially some 200 miles between Yunnan city and Ching-tung, *viâ* I-men; and, again, portions of my route from the Ching-tung valley to Ma-li-pa, or Tawnio, as the English maps have it.

"The Tung-ting lake is a splendid sheet of water, although very shallow (but in no sense a marsh, as sometimes described) during six months of the year. There can be no doubt that it is slowly and very gradually filling up, especially in the northern half, where the waters of the Yangtse river bring down vast quantities of silt, which is deposited, as the current is checked, on meeting the water of the lake . . . .

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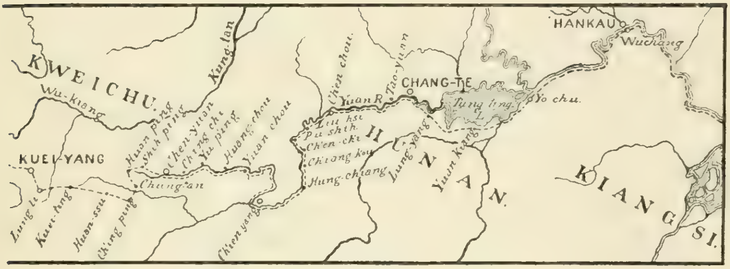
* Vol. xiv. no. 6, pp. 639-646 (December, 1899).

"The country between I-men (a place three marches south-west of Yunnan city) and Ching-tung is terribly fatiguing to travel over—a continual up and down 2000 to 4000 feet every two days' march. The highest point crossed by me during this portion of the route (and, indeed, during the whole journey from Hankau to Bhâmo) was just east of the Ching-tung valley, where the road reached 8400 feet, and the highest peaks of the range were probably 10,000 feet above sea-level. The next highest range was crossed just west of I-men, at about 8000 feet, the highest peaks being 1000 to 2000 feet above the pass. Taking a bee-line from Yunnan city to Kun-lung ferry, on the Salwin river, I should put the *average* height of the more important ranges at from 7000 to 8000 feet, and the *average* depth of the main river-beds below the general level of the plateau 2500 to 3000 feet.


KWEICHU.
Wu-kiang
Kung-tan
KUEI-YANG
Lung li
Kuei-ting
Huan-ssu
Ch'ing ping
Huan ping
Shih ping
Chen-yüan
Ch'ing chi
Yu ping
Huang chou
Yüan chou
Chung-an
Ch'ien yang
Ch'ien chou
Yüan R.
Tao-yüan
CHANG-TE
Liu hsi
Pu shih.
Ch'en-chi
Chiang kou
Hung-chiang
HUNAN.
Lung-yang
Yüan Kiang
Tung ting L.
Yo chu.
HANKAU
Wuchang
KIANGSI.

"In Hunan and Eastern Kweichu I encountered considerable opposition from the people, who objected to my plane-tabling and photographing; but we never came to blows, and, all things considered, except in three or four towns, they behaved fairly well. Chen-yüan district is one of the most disturbed and rowdy. In Kwei-chu and Yunnan no difficulty was encountered, so far as the people were concerned. They did not seem to care much what we did or where we went. It is quite easy and safe for foreigners to travel in these latter parts. . . . .

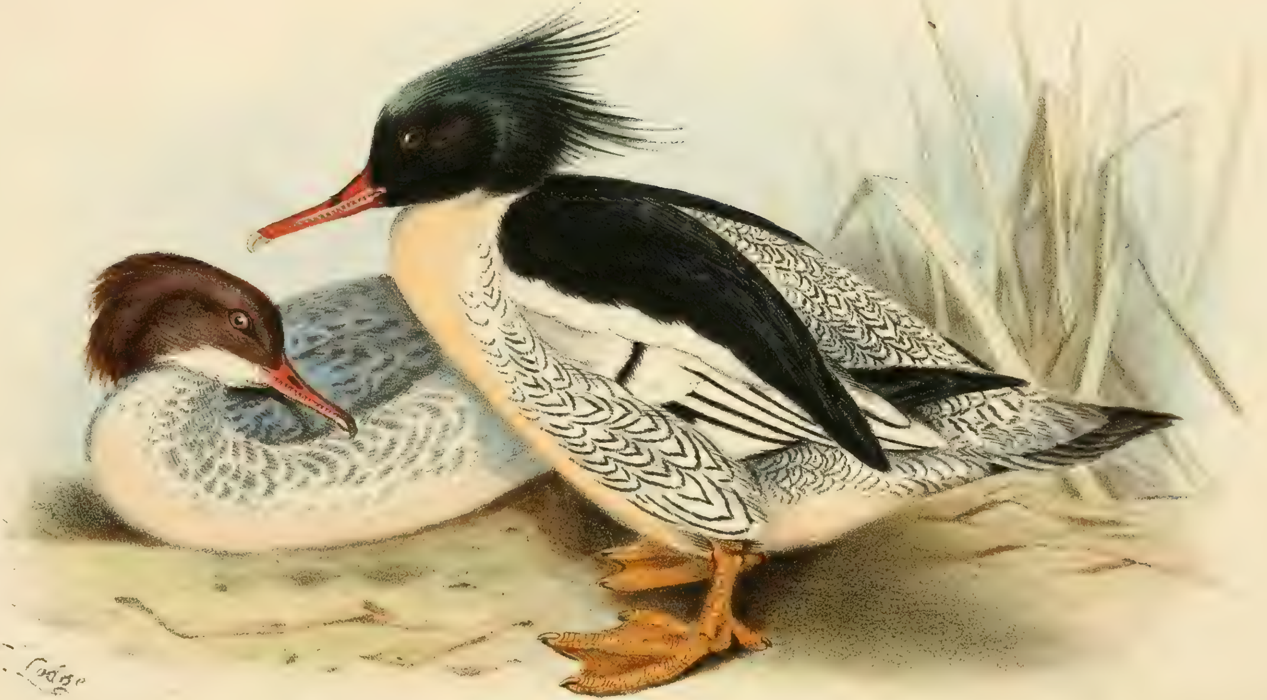
"There can be no doubt that the valleys of the great rivers west of Yunnan city and south of the Yunnan-Bhâmo trade-route are extremely unhealthy. I and all my followers enjoyed excellent health until we got west of I-men. From that place onward, until we had crossed the Salwin, we were constantly prostrated by malarial fever, and suffered great lassitude and depression when camped in the valley bottoms: a thing we avoided doing as much as possible. The valley of the Papien is among the worst in this respect. . . . .

"It was my original intention to have kept as near as possible in a bee-line from Shanghai to Mandalay; but on arrival at a place called Möng-kou, south-east of Kun-lung ferry, I found some savage tribes called 'Ke-wa' (nearly allied to the Nagas of the hills south of the Assam valley), who objected to my traversing their country, so I was obliged to turn northward, and direct my footsteps to Bhâmo instead. . . . .

"To those interested in the geography of China, it may be worth noting that, while the distance between Hankau and Bhâmo along the route followed by me is, according to the best maps of China, roughly 1500 miles, the actual distance traversed, according to my sketch, is some 2360 miles.

"Again, the distance from I-men to Ching-tung is shown on the maps as about 75 miles; I found we had to walk nearer 200 miles, which occupied us nine hours a day for ten days, excluding halts. . . . .

"The following may prove of interest. During the journey from Hankau to Bhâmo, between November 8, 1898, and April 20, 1899, the thermometer ranged from 30° to 92° Fahr. in the shade. We experienced every kind of weather from bright clear sunshine and cloudless skies to dull dark days, accompanied by fogs, mist, rain, snow, sleet, hail, frost, cold bleak winds, or hot fiery blasts. On the whole, except Manchuria, and perhaps Kashmir, I know no part of Asia so suited to the people of Western nations for prolonged



G E Lodge del et lith.

Mintern Bros imp

MERGANSER SQUAMATUS.

residence as the hills in the west of Hunan and the plateau of Kwei-chu and Yunnan.

"We had travelled from Hankau to Bhâmo, about 2360 miles, of which about 880 were by water, and the rest, 1480, by land. Excluding halts, we managed 13½ miles a day by boat against the current and with numberless rapids, over each of which it required from fifteen to twenty trackers to haul the boat; and by road we averaged 18¼ miles a day, including halts. We were 130 days actually on the march by river and road. During that portion of the journey between Kwei-yang and Bhâmo, we went up and down over 2000 feet more than twenty times; while on eight occasions we went down 3000 feet and up again a similar height in a distance of only 10 miles. These figures speak for themselves, and give some idea of the very mountainous character of the Kweichu and Yunnan provinces.

"There is a fine field for the scientific explorer and for the artist and sportsman in Hunan and Kweichu; the rivers of the former province would delight the fisherman's heart."

Capt. Wingate's collection includes examples of three species hitherto undescribed, viz.: *Phylloscopus subaffinis, Siva wingatii,* and *Sitta yunnanensis*; and of a like number of species not represented in the British Museum Collection, viz.: *Malacias desgodinsi, Proparus bieti,* and *Palæornis salvadorii.* Among other rarities included in the present collection, I would draw especial attention to a pair of the splendid Merganser *Merganser squamatus,* figured on Plate XII. by Mr. G. E. Lodge, and hitherto known only from a young male described by Gould in 1864; the rare Babbling-Thrush, *Babax lanceolatus*; an equally scarce Hill-Tit, *Schœniparus genestieri*; and, lastly, the hitherto unknown male of the rare Kestrel *Cerchneis saturata.*

I now give a list of the species of which specimens were obtained by Capt. Wingate, and add the exact localities and some of the collector's field-notes.

1. CORVUS TORQUATUS.

Corvus torquatus Less.; Sharpe, Cat. B. Brit. Mus. iii. p. 21 (1877); David & Oustal. Ois. Chine, p. 368 (1877).

a. ♂ ad. Yuan River, near Lake Tung-ting, Hunan, 21 November, 1898.

Iris dark brown.

Very common about Lake Tung-ting.

2. Urocissa erythrorhyncha.

Urocissa erythrorhyncha (Gm.); Sharpe, Cat. B. Brit. Mus. iii. p. 21 (1877).

Urocissa sinensis David & Oustal. Ois. Chine, p. 375, pl. 83 (1877).

a. ♂ ad. Chien-yang, Yuan River, South-west Hunan, 14 December, 1898.

Iris yellow. Total length 18 inches.

3. Dendrocitta himalayensis.

Dendrocitta himalayensis Blyth; Sharpe, Cat. B. Brit. Mus. iii. p. 79 (1877).

a. ♀ ad. South-west Yunnan, April 1899.

Iris red. Total length 14 inches.

4. Chibia hottentotta.

Chibia hottentotta (Linn.); Sharpe, Cat. B. Brit. Mus. iii. p. 235 (1877).

a. Ad. Man-see, South-west Yunnan, April 1899.

Iris dark brown. Total length 12 inches.

5. Buchanga atra.

Buchanga atra (Herm.); Sharpe, Cat. B. Brit. Mus. iii. p. 246 (1877).

Dicrurus cathœcus Swinh.; David & Oustal. Ois. Chine, p. 108 (1877).

a. ♂ ad. Ching-tung, Yunnan, 8 March, 1899.

Iris black. Total length 12 inches.

6. Buchanga cineracea.

Buchanga cineracea (Horsf.); Sharpe, Cat. B. Brit. Mus. iii. p. 350 (1877).

Buchanga mouhoti Walden; David & Oustal. Ois. Chine, p. 109 (1877).

a. ♂ ad. Ching-tung, Yunnan, 4 March, 1899.

Iris brown. Total length 12 inches.

7. Bhringa remifer.

Bhringa remifer (Temm.); Sharpe, Cat. B. Brit. Mus. iii. p. 257 (1877).

a. Ad. South-west Yunnan, April 1899.

Iris brown. Total length 21 inches.

8. Poliopsar malabaricus.

Poliopsar malabaricus (Gm.); Sharpe, Cat. B. Brit. Mus. xiii. p. 48 (1890).

a, b. ♂ ♀ ad. Wei-yüan, east of Upper Mekong River, South Yunnan, 15 March, 1899.

c, d. ♂ ♀ ad. South-west Yunnan, April 1899.

a, b, d. Iris white. Total length 7¾ inches.

c. Iris greenish blue. Total length 8 inches.

9. Acridotheres cristatellus.

Acridotheres cristatellus (Gm.); David & Oustal. Ois. Chine, p. 364, pl. 86 (1877); Sharpe, Cat. B. Brit. Mus. xiii. p. 92 (1890).

a. ♂ ad. Chien-yang, Yuan River, South-west Hunan, 8 December, 1898.

Iris yellow. Total length 10 inches.

10. Acridotheres tristis.

Acridotheres tristis (Linn.); Sharpe, Cat. B. Brit. Mus. xiii. p. 80 (1890).

a. ♂ ad. Near Möng-sen, South Yunnan, 24 March, 1899.

Iris white. Total length 11 inches.

11. Graculipica nigricollis.

Gracupica nigricollis (Payk.); David & Oustal. Ois. Chine, p. 364 (1877).

Graculipica nigricollis (Payk.); Sharpe, Cat. B. Brit. Mus. xiii. p. 77 (1890).

a. ♀ ad. South-west Yunnan, April 1899.

Iris dark brown. Total length 11 inches.

12. Oriolus tenuirostris.

Oriolus tenuirostris Blyth; Sharpe, Cat. B. Brit. Mus. iii. p. 198 (1877).

a. ♂ ad. East of Yunnan city, East Yunnan, 1 February, 1899.

Iris red. Total length 10 inches.

13. UROLONCHA SQUAMICOLLIS.

Munia acuticauda David & Oustal. (nec Hodgs.) Ois. Chine, p. 343 (1877).

Uroloncha squamicollis, Sharpe, Cat. B. Brit. Mus. xiii. p. 359 (1890).

a. ♂ ad. Near Kwei-yang, Kweichu, 7 January, 1899.

Iris red-brown. Total length 5 inches.

14. SPORÆGINTHUS AMANDAVA.

Sporæginthus amandava (Linn.); Sharpe, Cat. B. Brit. Mus. xiii. p. 320 (1890).

a. ♂ imm. South-west Yunnan, April 1899.

Iris yellow-brown. Total length 4½ inches.

b. ♀ imm. Möng-kou, near Ma-li-pa, South Yunnan, April 1899.

15. EOPHONA MELANURA.

Eophona melanura (Gm.); David & Oustal. Ois. Chine, p. 347, pl. 92 (1877); Sharpe, Cat. B. Brit. Mus. xii. p. 28 (1888).

a. ♀ ad. East of Yunnan city, East Yunnan, 23 February, 1899.

Iris yellow-brown. Total length 8 inches.

16. CHLORIS SINICA.

Chlorospiza sinica (Linn.); David & Oustal. Ois. Chine, p. 338 (1877).

Chloris sinica Sharpe, Cat. B. Brit. Mus. xii. p. 26 (1888).

a, b. ♂ [♀] ad. Yuan-chu, Wu-ho River, West Hunan, 22 December, 1898.

Iris dark brown. Total length 5 inches.

17. EMBERIZA PUSILLA.

Emberiza pusilla Pall.; David & Oustal. Ois. Chine, p. 323 (1877); Sharpe, Cat. B. Brit. Mus. xii. p. 487 (1888).

a. ♂ ad. Yuan-chu, Wu-ho River, West Hunan, 15 December, 1898.

Iris dark brown. Total length 5 inches.

18. Emberiza spodocephala.

Emberiza spodocephala Pall.; David & Oustal. Ois. Chine, p. 329 (1877); Sharpe, Cat. B. Brit. Mus. xii. p. 522 (1888).

a. Ad. Chien-yang, Yuan River, South-west Hunan, 9 December, 1898.

Iris dark brown. Total length 5½ inches.

19. Emberiza elegans.

Emberiza elegans Temm.; David & Oustal. Ois. Chine, p. 322 (1877); Sharpe, Cat. B. Brit. Mus. xii. p. 497 (1888).

a. ♂ ad. Ching-tung, Yunnan, 4 March, 1899.

Iris dark brown. Total length 6 inches.

20. Emberiza cioides.

Emberiza cioides Brandt; David & Oustal. Ois. Chine, p. 328 (1877); Sharpe, Cat. B. Brit. Mus. xii. p. 542 (1888).

a. ♂ ad. Chien-yang, Yuan River, South-west Hunan, 8 December, 1898.

Iris dark brown. Total length 6 inches.

21. Melophus melanicterus.

Melophus melanicterus (Gm.); David & Oustal. Ois. Chine, p. 333 (1877); Sharpe, Cat. B. Brit. Mus. xii. p. 568 (1888).

a. ♂ imm. Wei-yüan, Upper Mekong River, South Yunnan, 13 March, 1899.

b. ♂ ad. Möng-sen, South Yunnan, 26 March, 1899.

a. Iris brown. Total length 7 inches.

22. Alauda gulgula.

Alauda cœlivox Swinh.; David & Oustal. Ois. Chine, p. 314 (1877).

Alauda gulgula Frankl.; Sharpe, Cat. B. Brit. Mus. xiii. p. 575 (1890).

a. ♂ ad. Near Pu-an-ting, South-west Kweichu, 28 January, 1899.

Iris brown. Total length 6 inches.

23. MOTACILLA LEUCOPSIS.

Motacilla alboides Hodgs.; David & Oustal. Ois. Chine, p. 298 (1877).

Motacilla leucopsis Gould; Sharpe, Cat. B. Brit. Mus. x. p. 482 (1885).

a. ♂ ad. Yuan River, near Lake Tung-ting, Hunan, 28 November, 1898.

Iris black. Total length 8 inches.

24. MOTACILLA MELANOPE.

Calobates melanope (Pall.); David & Oustal. Ois. Chine, p. 302 (1877).

Motacilla melanope Pall.; Sharpe, Cat. B. Brit. Mus. x. p. 497 (1885).

a. ♂ ad. Near Yunnan city, East Yunnan, 7 February, 1899.

Iris black. Total length 8 inches.

25. MOTACILLA CITREOLA.

Budytes citreolus (Pall.); David & Oustal. Ois. Chine, p. 304 (1877).

Motacilla citreola Pall.; Sharpe, Cat. B. Brit. Mus. x. p. 503 (1885).

a. ♂ ad. South-western Yunnan, April 1899.

Iris black. Total length 8 inches.

26. SITTA YUNNANENSIS.

Sitta yunnanensis Grant, Bull. B. O. C. vol. x. p. xxxvii (1900).

Adult male. Most nearly allied to *S. montium* La Touche, from which it is at once distinguished by its much more slender bill and the entire absence of chestnut from the sides, flanks, and under tail-coverts, which are uniform greyish buff, like the rest of the underparts. Iris brown. Total length in the flesh 4·5 inches, culmen 0·65, wing 2·8, tail 1·5, tarsus 0·65.

a. ♂ ad. Wei-yüan, Southern Yunnan, 12 March, 1899. [*Type of the species.*]

27. Sitta magna.

Sitta magna Wardlaw Ramsay; Gadow, Cat. B. Brit. Mus. viii. p. 345 (1883).

a. ♂ ad. Wei-yüan, S. Yunnan, 19 March, 1899.

Iris dark brown. Total length 8 inches.

There is a fine adult male of this very rare Nuthatch from Wei-yüan, which differs somewhat from the only male specimen in the British Museum. In addition to the female type obtained by Major Wardlaw Ramsay from Karen-nee, the collection now possesses *a pair* of *S. magna* obtained at Kalaw, South Shan States, in May, by Major G. Rippon; both male and female have the basal half of the lower mandible white. The type female killed in January resembles the female from Kalaw, but the white on the base of the mandible is much less defined and suffused with dusky horn-colour. Capt. Wingate's bird, shot in March, has the bill blackish horn, with hardly a trace of whitish mottling towards the base of the lower mandible; the culmen, measuring 1·32 inch, is, moreover, somewhat longer than that of the type, which, though the largest of the three specimens in the collection, has a culmen measuring only 1·25 inch. There can be little doubt that the bird before us is a fully adult male of *S. magna*; the difference in the colour of the mandible is probably seasonal, the white base denoting the breeding bird.

28. Æthopyga sanguinipectus.

Æthopyga sanguinipectus Walden; Gadow, Cat. B. Brit. Mus. ix. p. 27 (1884).

a. ♂ ad. Man-lo, near Möng-sen, Southern Yunnan, 22 March, 1899.

Iris brown. Total length 6 inches.

29. Æthopyga dabryi.

Æthopyga dabryi (Verr.); David & Oustal. Ois. Chine, p. 80, pl. 11 (1877); Gadow, Cat. B. Brit. Mus. ix. p. 28 (1884).

a. ♂ ad. Nan-an-chu, near Yunnan city, E. Yunnan, 28 February, 1899.

b. ♂ ad. Wo-ka-chu, I-men, E. Yunnan, 3 March, 1899.

c. ♀ ad. Man-lo, near Möng-sen, S. Yunnan, 22 March, 1899.

Iris brown. Total length 6 inches (*a*), 4 inches (*c*).

30. DICÆUM IGNIPECTUS.

Myzanthe ignipectus (Hodgs.); David & Oustal. Ois. Chine, p. 84 (1877).

Dicæum ignipectus (Hodgs.); Sharpe, Cat. B. Brit. Mus. x. p. 41 (1885).

a. ♂ ad. Ching-tung, Yunnan, 5 March, 1899.

Iris brown. Total length 3½ inches.

31. PARUS MINOR.

Parus minor Temm. & Schleg.; David & Oustal. Ois. Chine, p. 278 (1877); Gadow, Cat. B. Brit. Mus. viii. p. 15 (1883).

a. ♂ ad. Nan-an-chow, near Yunnan city, E. Yunnan, 27 February, 1899.

Iris black. Total length 6 inches.

32. PARUS CINEREUS.

Parus cinereus Bonn.; David & Oustal. Ois. Chine, p. 279 (1877); Gadow, Cat. B. Brit. Mus. viii. p. 16 (1883).

a. ♂ ad. Chen-chi, Yuan River, Western Hunan, 5 December, 1898.

b. Ad. Yu-ping, near Yuan-chu, Wu-ho River, Western Hunan, 23 December, 1898.

Iris dark brown. Total length 5½ inches.

33. PTERERYTHRIUS ÆRALATUS.

Ptererythrius æralatus Tick.; Gadow, Cat. B. Brit. Mus. viii. p. 114 (1883).

a. [♂] ad. (apparently an adult female). En-lo-hsien, near Ching-tung, Yunnan, 11 March, 1899,

Iris brown. Total length 7 inches.

34. LANIUS SCHACH.

Lanius schach Linn.; David & Oustal. Ois. Chine, p. 95 pl. 75 (1877); Gadow, Cat. B. Brit. Mus. viii. p. 261 (1883).

a. ♂ ad. Tao-yüan, Yuan River, Hunan, 22 November, 1898.

b. ♂ ad. Chien-yang, Yuan River, Hunan, 9 December, 1898.

Iris brown. Total length 11 inches.

35. Lanius tephronotus.

Lanius tephronotus (Vig.); David & Oustal. Ois. Chine, p. 94 (1877); Gadow, Cat. B. Brit. Mus. viii. p. 260 (1883).

a. ♂ imm. Near Yunnan city, East Yunnan, 7 February, 1899.

Iris dark brown. Total length 9 inches.

36. Lanius nigriceps.

Lanius nigriceps Frankl.; David & Oustal. Ois. Chine, p. 95 (1877); Gadow, Cat. B. Brit. Mus. viii. p. 268 (1883).

a. ♂ ad. Near Yunnan city, East Yunnan, 23 February, 1899.

b. ♀ ad. Near Yunnan city, East Yunnan, 24 February, 1899.

c. Ad. Near Yunnan city, East Yunnan, 27 February, 1899.

d. ♂ ad. Ching-tung, Yunnan, 5 March, 1899.

Iris dark brown. Total length 10 inches.

37. Lanius collyrioides.

Lanius collyrioides Less.; Gadow, Cat. B. Brit. Mus. viii. p. 289 (1883).

a. ♂ ad. Möng-kou, near Ma-li-pa, South Yunnan, April 1899.

Iris dark brown. Total length 8 inches.

38. Phylloscopus subaffinis.

Phylloscopus affinis Styan (nec Tick.), Ibis, 1889, p. 444 (Lushan Hills, near Kiukiang); Slater, Ibis, 1897, p. 170 (Kuatun).

Lusciniola schwarzi Styan (nec Radde), Ibis, 1891, p. 389 (Kiukiang).

Phylloscopus subaffinis Grant, Bull. B.O.C. vol. x. p. xxxvii (1900).

Adult. Differs from *P. affinis* Tick. in having the terminal half of the lower mandible, as well as the legs and feet, very dark horn-brown. The underparts are strongly washed with dull fulvous, the clear yellow of the underparts, so conspicuous in *P. affinis*, being merely indicated on the middle of the breast and belly. It resembles *P. affinis* in the shape of the wing, the second primary being about equal to the tenth. Iris black. Total length (in flesh) 4·5 inches, culmen 0·5, wing 1·95–2·05, tail 1·8, tarsus 0·75.

a, b. ♂ ♀ ad. Pu-an-ting, South-west Kweichu, 27 January, 1899. [*Types of the species.*]

39. PHYLLOSCOPUS PROREGULUS.

Reguloides proregulus (Pall.); David & Oustal. Ois. Chine, p. 274 (1877).

Phylloscopus proregulus (Pall.); Seebohm, Cat. B. Brit. Mus. v. p. 71 (1881).

a. ♂ ad. Near Yunnan city, East Yunnan, 7 February, 1899.

Iris black. Total length 3½ inches.

40. MEGALURUS PALUSTRIS.

Megalurus palustris Horsf.; Sharpe, Cat. B. Brit. Mus. vii. p. 123 (1883).

a. ♂ ad. Ching-tung, Yunnan, 8 March, 1899.

b. ♂ ad. Möng-sen, near Ma-l'-pa, South Yunnan, 29 March, 1899.

a. Iris yellow-brown. Total length 11 inches.

b. Iris yellow. Total length 12 inches.

41. SUYA CRINIGERA.

Suya striata (Swinh.); David & Oustal. Ois. Chine, p. 258, pl. 18 (1877).

Suya criniyera Hodgs.; Sharpe, Cat. B. Brit. Mus. vii. p. 177 (1883).

a. Ad. Chen-chi, Yuan River, West Hunan, 4 December, 1898.

b. ♂ ad. Chien-yang, Yuan River, South-west Hunan, 13 December 1898.

c, d. ♂ ♀ ad. Yuan-chu, Wu-ho River, West Hunan, 16 December, 1898.

Iris yellow-brown. Total length (*a, d*) 6 inches, (*b, c*) 7 inches.

42. CISTICOLA GRACILIS.

Cisticola gracilis (Frankl.); Sharpe, Cat. B. Brit. Mus. vii. p. 253 (1883).

a. ♂ ad. Ching-tung, Yunnan, 9 March, 1899.

Iris brown. Total length 5 inches.

43. TURDUS FUSCATUS.

Turdus fuscata Pall.; David & Oustal. Ois. Chine, p. 155 (1877).

Merula fuscata (Pall.); Seebohm, Cat. B. Brit. Mus. v. p. 262 (1881).

a. ♂ ad. Near Pu-an-ting, West Kweichu, 29 January, 1899.

Iris dark brown. Total length 10 inches.

44. MONTICOLA CYANUS.

Monticola cyanea (Linn.); David & Oustal. Ois. Chine, p. 163 (1877); Seebohm, Cat. B. Brit. Mus. v. p. 316 (1881).

a. [♂] ad. Near Yunnan city, East Yunnan, 29 February, 1899.

b. ♂ ad. Near Möng-sen, South Yunnan, 22 March, 1899.

Iris dark brown. Total length 9 inches.

45. PRATINCOLA MAURA.

Pratincola indica Blyth; David & Oustal. Ois. Chine, p. 167 (1877).

Pratincola maura (Pall.); Sharpe, Cat. B. Brit. Mus. iv. p. 188 (1879).

a. ♂ ad. Chen-ning, South Kweichu, 18 January, 1899.

b. ♀ ad. Near Pu-an-ting, South-west Kweichu, 29 January, 1899.

c. ♂ ad. Near Möng-sen, South Yunnan, 29 March, 1899.

Iris dark brown. Total length 5–5·5 inches.

46. PRATINCOLA CAPRATA.

Pratincola caprata (Linn.); Sharpe, Cat. B. Brit. Mus. iv. p. 195 (1879).

a. ♂ ad. Ching-tung, Yunnan, 8 March, 1899.
b. ♀ ad. Ching-tung, Yunnan, 9 March, 1899.
c. ♂ ad. Wei-yüan, South Yunnan, 13 March, 1899.
Iris dark brown. Total length 5·5–5·75 inches.

47. Orficola ferrea.

Pratincola ferrea (Hodgs.); David & Oustal. Ois. Chine, p. 168 (1877).

Oreicola ferrea (Hodgs.); Sharpe, Cat. B. Brit. Mus. iv. p. 266 (1879).

a. ♂ ad. Near Yunnan city, East Yunnan, 29 February, 1899.

Iris dark brown. Total length 5½ inches.

48. Ruticilla frontalis.

Ruticilla frontalis (Vig.); David & Oustal. Ois. Chine, p. 168 (1877); Seebohm, Cat. B. Brit. Mus. v. p. 349 (1881).

a. ♂ ad. Near Pu-an-ting, South-west Kweichu, 29 January, 1899.

Iris dark brown. Total length 6 inches.

49. Ruticilla aurorea.

Ruticilla aurorea (Gm.); David & Oustal. Ois. Chine, p. 170, pl. 26 (1877); Seebohm, Cat. B. Brit. Mus. v. p. 345 (1881).

a. ♂ ad. Chien-yang, Yuan River, South-west Hunan, 13 December, 1898.

b. ♂ ad. Near Yuan-chu, Wu-ho River, West Hunan, 23 December, 1898.

Iris dark brown. Total length 6 inches.

50. Chimarrhornis leucocephala.

Chæmarrhornis leucocephala (Vig.); David & Oustal. Ois. Chine, p. 173, pl. 24 (1877); Sharpe, Cat. B. Brit. Mus. vii. p. 47 (1883).

a. ♀ ad. Yuan River, near Lake Tung-ting, Hunan, 29 November, 1898.

b. ♂ ad. Chen-chu, Yuan River, West Hunan, 7 December, 1898.

Iris dark brown. Total length 8 inches.

51. Myiophoneus cæruleus.

Myiophoneus cæruleus (Scop.); David & Oustal. Ois. Chine, p. 176, pl. 43 (1877); Sharpe, Cat. B. Brit. Mus. vii. p. 9 (1883).

a. ♂ ad. Near Kuei-yang, Kweichu, 7 January, 1899.

Iris brown. Total length 12 inches.

52. Copsychus saularis.

Copsychus saularis (Linn.); David & Oustal. Ois. Chine, p. 174 (1877); Sharpe, Cat. B. Brit. Mus. vii. p. 61 (1883).

a, b. ♂ ad. Chien-yang, Yuan River, South-west Hunan, 2 December, 1898.

53. Henicurus sinensis.

Henicurus sinensis Gould; David & Oustal. Ois. Chine, p. 295, pl. 37 (1877); Sharpe, Cat. B. Brit. Mus. vii. p. 313 (1883).

a. ♂ ad. Near Yunnan city, East Yunnan, 23 February, 1899.

Iris black. Total length 11 inches.

54. Babax lanceolatus.

Babax lanceolatus (J. Verr.); David & Oustal. Ois. Chine, p. 188, pl. 51 (1877); Sharpe, Cat. B. Brit. Mus. vii. p. 352 (1883).

a. ♂ ad. Yuan-chu, Yuan River, West Hunan, 20 December, 1899.

Iris yellow. Total length 10 inches.

Capt. Wingate's collection contains a very fine male of this rare species.

55. Malacias desgodinsi.

Sibia desgodinsi David & Oustal. Ois. Chine, p. 556 (1877).

Malacias desgodinsi Sharpe, Cat. B. Brit. Mus. vii. p. 406 (1883).

a. ♂ ad. Wei-yüan, South Yunnan, 19 March, 1899.

b. ♀ ad. Near Möng-sen, South Yunnan, 21 March, 1899.

Iris brown. Total length 9¾ inches.

This species is new to the British Museum.

56. Pomatorhinus stridulus.

Pomatorhinus stridulus Swinhoe, Ibis, 1861, p. 265; Seebohm, Ibis, 1884, p. 264.

Pomatorhinus ruficollis Sharpe, Cat. B. Brit. Mus. vii. p. 426 (1883) [part.].

a. ♂ ad. Ching-tung, Yunnan, 5 March, 1899.

b, c. ♂ ad. Möng-kou, near Ma-li-pa, South Yunnan, 1 April, 1899.

The three specimens mentioned above are referred to this species with some doubt.

Specimen *a* differs from *b* and *c* in having scarcely any trace of white on the middle of the breast and the entire belly dull olive-brown. In *b* and *c*, especially in the former, the greater part of the breast, as well as the middle of the belly, is white. This difference is probably due to age, for some specimens of *P. ruficollis* show much more white on the underparts than others, and are probably very old birds. The following are the measurements:—

a. Wing 3·0 inches, tail 3·4.
b. ,, 3·25 ,, ,, 3·6.
c. ,, 3·3 ,, ,, 3·65.

Typical examples of *P. ruficollis* from India measure:—Wing 3·2 inches, tail 3·5.

57. Pomatorhinus gravivox.

Pomatorhinus gravivox David; David & Oustal. Ois. Chine, p. 183, pl. 49 (1877); Seebohm, Ibis, 1891, p. 373.

a. ♂ ad. Near Yunnan city, East Yunnan, 6 February, 1899.

b. ♀ ad. South-western Yunnan, April 1899.

Iris yellow. Total length 10 inches (*a*), 9½ inches (*b*).

58. Garrulax leucolophus.

Garrulax leucolophus (Hardw.); Sharpe, Cat. B. Brit. Mus. vii. p. 435 (1883).

a. ♀ ad. Möng-kou, near Ma-li-pa, South Yunnan, April 1899.

Iris brown. Total length 11 inches.

59. DRYONASTES PERSPICILLATUS.

Garrulax perspicillatus (Gm.); David & Oustal. Ois. Chine, p. 191, pl. 52 (1877).

Dryonastes perspicillatus (Gm.); Sharpe, Cat. B. Brit. Mus. vii. p. 458 (1883).

a. ♂ ad. Chien-yang, Yuan River, South-west Hunan, 8 December, 1898.

Iris dark brown. Total length 12 inches.

60. DRYONASTES SANNIO.

Garrulax sannio Swinh.; David & Oustal. Ois. Chine, p. 192 (1877).

Dryonastes sannio (Swinh.); Sharpe, Cat. B. Brit. Mus. vii. p. 459 (1883).

a. Ad. Near Chen-chi, Yuan River, West Hunan, 6 December, 1898.

b. Ad. Chien-yang, Yuan River, South-west Hunan, 12 December, 1898.

a. Iris brown.
b. Iris dark brown. } Total length 10 inches.

61. SUTHORA WEBBIANA.

Suthora webbiana Gray; David & Oustal. Ois. Chine, p. 208 (1877); Sharpe, Cat. B. Brit. Mus. vii. p. 490 (1883).

a. ♂ ad. Chen-chi, Yuan River, West Hunan, 5 December, 1898.

Iris black. Total length 5 inches.

62. PYCTORHIS SINENSIS.

Pyctorhis sinensis (Gm.); Sharpe, Cat. B. Brit. Mus. vii. p 510 (1883).

a. ♂ ad. Ching-tung, Yunnan, 9 March, 1899.

Iris yellow. Total length 7½ inches.

63. STACHYRIDOPSIS RUFICEPS.

Stachyris præcognitus David & Oustal. (nec Swinh.) Ois. Chine, p. 224 (1877).

Stachyridopsis ruficeps (Blyth); Sharpe, Cat. B. Brit. Mus. vii. p. 598 (1883); Grant, P. Z. S. 1900, p. 476.

a. ♂ ad. Yuan-chu, Wu-ho River, West Hunan, 16 December, 1898.

Iris yellow. Total length 4 inches.

This specimen belongs to the Chinese race of *S. ruficeps*, with the top of the head pale chestnut-red, the colour not extending over the nape.

64. SCHŒNIPARUS GENESTIERI.

Alcippe genestieri Oustalet, Bull. Mus. Paris, iii. pp. 210 & 211 (1897).

Schœniparus variegatus Styan, Bull. B.O.C. vol. viii. p. xxvi (1899); id. Ibis, 1899, p. 299, pl. iv. fig. 2.

a, b. ♂ ad. Pu-an-ting, South-west Kweichu, 25 January, 1899.

Iris yellow. Total length 6 inches.

There can be no doubt that *S. variegatus* Styan is synonymous with *S. genestieri* (Oustal.).

65. PROPARUS BIETI.

Alcippe (*Proparus*) *bieti* Oustalet, Ann. Sci. Nat., Zool. (7) xii. pp. 284 & 304 (1892) [Ta-tsien-lu].

a. ♂ ad. Near Ching-tung, Yunnan, 4 March, 1899.

Iris brown. Total length 5 inches.

This species is new to the British Museum Collection.

66. YUHINA DIADEMATA.

Yuhina diademata J. Verr.; David & Oustal. Ois. Chine, p. 138, pl. 69 (1877); Sharpe, Cat. B. Brit. Mus. vii. p. 632 (1883).

a. ♂ ad. Near Yunnan city, East Yunnan, 23 February, 1899.

Iris brown. Total length 7 inches.

67. SIVA CASTANEICAUDA.

Siva castaneicauda Hume; Sharpe, Cat. B. Brit. Mus. vii. p. 639 (1883).

a. ♂ ad. Between Ching-tung and I-men, Yunnan, 3 March, 1899.

Iris brown. Total length 6½ inches.

68. SIVA WINGATII.

Siva wingatei Grant, Bull. B. O. C. vol. x. p. xxxviii (1900).

a. ♂ ad. Near Yunnan city, East Yunnan, 27 February, 1899. [*Type of the species.*]

Adult male. Closely allied to both *S. cyanuroptera* Hodgs. and *S. sordida* Hume. It resembles both in the general colour of the upper parts, the grey of the head and neck shading into olive-brown on the back and fulvous on the rump and upper tail-coverts. It further resembles *S. cyanuroptera* and differs from *S. sordida* in having the chin, throat, sides, and flanks washed with vinous-grey. It differs from *S. cyanuroptera* and resembles *S. sordida* in having no white tips to the bastard-wing feathers. It differs from both in having only the inner webs of the outer pair of tail-feathers white to the tip; moreover, the feathers on the forehead, lores, and chin are strongly washed with rusty pink, though it is just possible that this colour may be due to stain. Iris brown. Total length 6·0 inches, culmen 0·6, wing 2·5, tail 2·5, tarsus 0·9.

S. sordidior Sharpe, from the mountains of Perak, may be at once distinguished from this species by having the top of the head and back uniform earthy brown, and the rump and upper tail-coverts similar, but paler.

69. CHLOROPSIS HARDWICKII.

Chloropsis hardwickii, Jard. & Selby; Sharpe, Cat. B. Brit. Mus. vi. p. 18 (1883).

a. ♂ ad. Ching-tung, Yunnan, 5 March, 1899.

Iris yellowish brown. Total length 7½ inches.

70. HYPSIPETES CONCOLOR.

Hypsipetes yunanensis Anders.; David & Oustal. Ois. Chine, p. 137 (1877).

Hypsipetes concolor Blyth; Sharpe, Cat. B. Brit. Mus. vi. p. 38 (1883).

a. ♀ ad. Wei-yüan, South Yunnan, 15 March, 1899.

Iris brown. Total length 10 inches.

71. HYPSIPETES LEUCOCEPHALUS.

Hypsipetes leucocephalus (Gm.); David & Oustal. Ois. Chine, p. 136, pl. 44 (1877); Sharpe, Cat. B. Brit. Mus. vi. p. 41 (1883).

a. ♂ ad. Near Möng-sen, South Yunnan, 22 March, 1899. Iris dark brown. Total length 9½ inches.

72. HEMIXUS FLAVALA.

Hemixus flavala Hodgs.; Sharpe, Cat. B. Brit. Mus. vi. p. 49 (1883).

a. ♂ ad. Möng-kou, south of Ma-li-pa, South Yunnan, April 1899.

Iris brown. Total length 7½ inches.

73. PYCNONOTUS BURMANICUS.

Pycnonotus burmanicus Sharpe, Cat. B. Brit. Mus. vi. p. 125 (1883).

a. Ad. South-west Yunnan, April 1899.

Iris dark brown. Total length 10 inches.

74. PYCNONOTUS ATRICAPILLUS.

Pycnonotus atricapillus (Vieill.); Sharpe, Cat. B. Brit. Mus. vi. p. 127 (1883).

a. ♂ ad. Ching-tung, Yunnan, 5 March, 1899.
b. ♂ ad. Möng-sen, South Yunnan, 23 March, 1899.
c. ♂ ad. Möng-sen, South Yunnan, 28 March, 1899.
Iris dark brown. Total length 9 inches.

75. PYCNONOTUS XANTHORRHOUS.

Ixus xanthorrhous (Anders.); David & Oustal. Ois. Chine, p. 141, pl. 45 (1877).

Pycnonotus xanthorrhous Anders.; Sharpe, Cat. B. Brit. Mus. vi. p. 149 (1883).

a. ♂ ad. Above Yuan-chu, Wu-ho River, West Hunan, 24 December, 1898.

Iris brown. Total length 8 inches.

76. SPIZIXUS SEMITORQUES.

Spizixus semitorques Swinh.; David & Oustal. Ois. Chine, p. 143, pl. 47 (1877); Sharpe, Cat. B. Brit. Mus. vi. p. 173 (1883).

a. ♂ ad. Yuan-chu, Wu-ho River, West Hunan, 20 December, 1898.

Iris dark brown. Total length 8 inches.

77. PERICROCOTUS BREVIROSTRIS.

Pericrocotus brevirostris (Vig.) ; David & Oustal. Ois. Chine, p. 104, pl. 78 (1877) ; Sharpe, Cat. B. Brit. Mus. iv. p. 79 (1879).

a, b. ♂ ♀ ad. Near Yunnan city, East Yunnan, 22 February, 1899.

c. ♂ ad. Near Yunnan city, East Yunnan, 27 February, 1899.

Iris brown. Total length 8 inches.

78. MUSCICAPULA MACULATA.

Muscicapula maculata (Tick.) ; Sharpe, Cat. B. Brit. Mus. iv. p. 207 (1879).

a. ♂ ad. Ching-tung, Yunnan, 12 March, 1899.

Iris dark brown. Total length 4½ inches.

79. XANTHOPYGIA FULIGINOSA.

Rhyacornis fuliginosa (Vig.) ; David & Oustal. Ois. Chine, p. 171, pl. 25 (1877).

Xanthopygia fuliginosa (Vig.) ; Sharpe, Cat. B. Brit. Mus. iv. p. 253 (1879).

a. ♀ ad. Yuan-chu, Wu-ho River, West Hunan, 6 December, 1898.

b. ♂ ad. Yuan-chu, Wu-ho River, West Hunan, 7 December, 1898.

Iris black. Total length, ♂ 5½ inches, ♀ 5 inches.

80. TARSIGER CYANURUS.

Ianthia cyanura (Pall.); David & Oustal. Ois. Chine, p. 231, pl. 28 (1877).

Tarsiger cyanurus (Pall.) ; Sharpe, Cat. B. Brit. Mus. iv. p. 255 (1879).

a. ♀ ad. Pu-an-ting, South-west Kweichu, 25 January, 1899.

Iris dark brown. Total length 5 inches.

81. Stoparola melanops.

Stoparola melanops (Vig.); David & Oustal. Ois. Chine, p. 116 (1877); Sharpe, Cat. B. Brit. Mus. iv. p. 438 (1879).

a, b. ♂ ad. Ching-tung, Yunnan, 12 March, 1899.

Iris dark brown. Total length 6¾ inches.

82. Cotile rupestris.

Ptyoprocne rupestris (Scop.); David & Oustal. Ois. Chine, p. 129 (1877).

Cotile rupestris (Scop.); Sharpe, Cat. B. Brit. Mus. x. p. 109 (1885).

a, b. ♂ ad. Near Yunnan city, East Yunnan, 24 February, 1899.

Iris black. Total length 6 inches.

83. Gecinus guerini.

Gecinus guerini (Malh.); David & Oustal. Ois. Chine, p. 52 (1877); Hargitt, Cat. B. Brit. Mus. xviii. p. 55 (1890).

a. ♂ ad. Chien-yang, Yuan River, South-west Hunan, 12 December, 1898.

Iris white. Total length 12 inches.

84. Gecinus chlorolophus.

Gecinus chlorolophus Vieill.; Hargitt, Cat. B. Brit. Mus. xviii. p. 59 (1890).

a. [♂] ad. South-west Yunnan, April 1899.

Iris brown. Total length 11 inches.

85. Hypopicus hyperythrus.

Hypopicus hyperythrus (Vig.); Hargitt, Cat. B. Brit. Mus. xviii. p. 199 (1890).

a. ♂ ad. South-west Yunnan, April 1899.

Iris red. Total length 8½ inches.

86. Dendrocopus cabanisi.

Picus mandarinus Malh.; David & Oustal. Ois. Chine, p. 47 (1877).

Dendrocopus cabanisi (Malh.); Hargitt, Cat. B. Brit. Mus. xviii. p. 218 (1890).

a. [♂] ad. Yuan-chu, Wu-ho River, Western Hunan, 16 December, 1898.

b. ♀ ad. Pu-an-ting, South-west Kweichu, 25 January, 1899.

c, d. ♂ ad. Pu-an-ting, South-west Kweichu, 28 January, 1899.

e. ♂ ad. Near Yunnan city, East Yunnan, 6 February, 1899.

f. ♂ ad. Near Yunnan city, East Yunnan, 24 February, 1899.

Iris red. Total length 9 inches (*e*), 10 inches (*a, f*), 11 inches (*b, c, d*).

A female (*b*) and a male (*c*) have the lores and fore part of the forehead of a deep rust-red. The feathers are probably stained with some extraneous matter. Specimen *f* has the chest and breast wood-brown and of a much darker hue than any other specimen in the British Museum Collection, in *b* and *c* the colour of the chest is intermediate.

87. DENDROCOPUS ATRATUS.

Dendrocopus atratus (Blyth); Hargitt, Cat. B. Brit. Mus. xviii. p. 263 (1890).

a. ♂ ad. South-west Yunnan, April 1899.

Iris red. Total length 8 inches.

88. IYNGIPICUS SCINTILLICEPS.

Yungipicus scintilliceps (Swinh.); David & Oustal. Ois. Chine, p. 50, pl. 99 (1877).

Iyngipicus scintilliceps (Swinh.); Hargitt, Cat. B. Brit. Mus. xviii. p. 313 (1890).

a. ♂ ad. Near Yunnan city, East Yunnan, February 1899.

Iris brown. Total length 7 inches.

89. IYNGIPICUS PYGMÆUS.

Iyngipicus pygmæus (Vig.); Hargitt, Cat. B. Brit. Mus. xviii. p. 315 (1890).

a. ♀ ad. South-west Yunnan, April 1899.

Iris red. Total length 6 inches.

I refer this specimen with some doubt to *I. pygmæus*, from which it differs in having a slightly larger bill and in the general colour of the underparts, which lacks the fulvescent tinge.

90. IYNX TORQUILLA.

Yunx torquilla Linn.; David & Oustal. Ois. Chine, p. 55 (1877).

Iynx torquilla (Linn.); Hargitt, Cat. B. Brit. Mus. xviii. p. 560 (1890).

a. ♂ ad. South-west Yunnan, 9 April, 1899.

Iris brown. Total length 7 inches.

91. CYANOPS ASIATICA.

Cyanops asiatica (Lath.); Shelley, Cat. B. Brit. Mus. xix. p. 62 (1891).

a, b. ♂ ad. Wei-yüan, Upper Mekong River, South Yunnan, 15 March, 1899.

Iris red-brown. Total length 9 inches.

92. CUCULUS CANORUS.

Cuculus canorus Linn.; David & Oustal. Ois. Chine. p. 65 (1877); Shelley, Cat. B. Brit. Mus. xix. p. 245 (1891).

a. ♂ ad. South-west Yunnan, April 1899.

Iris yellow. Total length 14 inches.

93. CHALCOCOCCYX MACULATUS.

Chrysococcyx hodgsoni Horsf. & Moore; David & Oustal. Ois. Chine, p. 62 (1877).

Chalcococcyx maculatus (Gm.); Shelley, Cat. B. Brit. Mus. xix. p. 291 (1891).

a. ♂ ad. South-west Yunnan, April 1899.

Iris red. Total length 7 inches.

94. CENTROPUS SINENSIS.

Centropus sinensis (Steph.); David & Oustal. Ois. Chine, p. 58 (1877); Shelley, Cat. B. Brit. Mus. xix. p. 343 (1891).

a. ♂ vix ad. Möng-kou, south of Ma-li-pa, South-west Yunnan, 2 April, 1899.

Iris yellow-brown. Total length 21 inches.

95. MEROPS VIRIDIS.

Merops viridis Linn.; Sharpe, Cat. B. Brit. Mus. xvii. p. 78 (1892).

a. ♂ ad. Ching-tung, Yunnan, 9 March, 1899.

Iris yellow-brown. Total length 10½ inches.

96. Melittophagus swinhoii.

Melittophagus swinhoii (Hume); Sharpe, Cat. B. Brit. Mus. xvii. p. 55 (1892).

a. ♂ ad. Near Möng-sen, South Yunnan, 22 March, 1899.

Iris yellow-brown. Total length 9 inches.

97. Ceryle lugubris.

Ceryle lugubris (Temm.); David & Oustal. Ois. Chine, pl. 78, pl. 10 (1877); Sharpe, Cat. B. Brit. Mus. xvii. p. 115 (1892).

a. ♂ ad. Yuan-chu, Wu-ho River, West Hunan, 23 December, 1898.

b. ♂ ad. Yuan-chu, Wu-ho River, West Hunan, 24 December, 1898.

Iris dark brown. Total length 16 inches.

98. Halcyon smyrnensis.

Entomobia smyrnensis (Linn.); David & Oustal. Ois. Chine, p. 76 (1877).

Halcyon smyrnensis (Linn.); Sharpe, Cat. B. Brit. Mus. xvii. p. 222 (1892).

a. ♂ ad. Möng-kou, south of Ma-li-pa (Tawnio), South Yunnan, 2 April, 1899.

Iris dark brown. Total length 12 inches.

99. Coracias affinis.

Coracias affinis McClell.; Sharpe, Cat. B. Brit. Mus. xvii. p. 13 (1892).

a. ♂ ad. Ching-tung, Yunnan, 8 March, 1899.

Iris brown. Total length 14 inches.

100. Palæornis fasciata.

Palæornis lathami Finsch; David & Oustal. Ois. Chine, p. 2 (1877).

Palæornis fasciata (P. L. S. Müller); Salvad. Cat. B. Brit. Mus. xx. p. 464 (1891).

a. ♂ ad. South-west Yunnan, April 1899.

Iris yellowish brown. Total length 16 inches.

101. Palæornis salvadorii.

Palæornis derbyanus David & Oustal. (nec Fraser) Ois. Chine, p. 1, pl. 1 (1877).

Palæornis salvadorii Oustal. Bull. Soc. Zool. France, xviii. p. 20 (1893).

Palæornis derbyana salvadorii Rothsch. Bull. B. O. C. vol. viii. p. lvi (1899).

a. ♂ ad. Ching-tung, Yunnan, 13 March, 1899.

Iris yellow. Total length 20 inches (in flesh), wing 8, tail 10·3, tarsus 0·65.

Capt. Wingate's collection contains a fine adult male of this species. It is evident that *P. salvadorii* Oustal. is perfectly distinct from *P. derbyanus* Fraser. Among other distinctive characters of *P. salvadorii* may be mentioned the red upper mandible, the purple-blue of the underparts, uniform in colour with the crown, and the absence of the pale brownish-buff band bordering the hinder part of the head and cheeks, so distinctly shown in the figures given by Fraser, P. Z. S. 1850, pl. 25, and in Gould's 'Birds of Asia,' vi. pl. 9 (1858).

102. Glaucidium whitelyi.

Glaucidium whitelyi (Blyth); Sharpe, Cat. B. Brit. Mus. ii. p. 222 (1875).

Athene whitelyi Blyth; David & Oustal. Ois. Chine, p. 38 pl. iv. (1877).

a. Ad. Near Chen-chi, Yuan River, West Hunan, 7 December, 1898.

b. ♂ ad. Yuan-chu, Wu-ho River, West Hunan, 16 December, 1898.

Iris yellow-green. Total length 10 inches (*a*), 11 inches (*b*).

103. Circus cyaneus.

Circus cyaneus (Linn.); Sharpe, Cat. B. Brit. Mus. i. p. 52 (1874); David & Oustal. Ois. Chine, p. 27 (1877).

a, b. ♂ ad. et imm. South-west Yunnan, April 1899.

Iris yellow. Total length 17 inches (*a*), 18 inches (*b*).

104. Accipiter nisus.

Accipiter nisus (Linn.); Sharpe, Cat. B. Brit. Mus.

i. p. 132 (1874); David & Oustal. Ois. Chine, p. 27 (1877).

a. ♀ ad. South-west Yunnan, April 1899.

Iris yellow. Total length 16 inches.

105. ELANUS CÆRULEUS.

Elanus cæruleus (Desf.); Sharpe, Cat. B. Brit. Mus. i. p. 336 (1874); David & Oustal. Ois. Chine, p. 17 (1877).

a. ♂ ad. Near Yunnan city, East Yunnan, 6 February, 1899.

Iris red. Total length 12 inches.

106. BUTEO PLUMIPES.

Buteo plumipes (Hodgs.); Sharpe, Cat. B. Brit. Mus. i. p. 180, pl. vii. fig. 1 (1874).

Buteo japonicus (Temm.); David & Oustal. Ois. Chine, p. 19 (1877).

a. ♂ ad. Near Yunnan city, East Yunnan, 5 February, 1899.

Iris yellow. Total length 20 inches.

107. CERCHNEIS SATURATA.

Tinnunculus saturatus Blyth, J. A. S. Beng. xxviii. p. 277 (1859).

Cerchneis saturata Sharpe, Hand-l. B. i. p. 277 (1899).

a. ♀ ad. Yuan-chu, Wu-ho River, West Hunan, 23 December, 1898.

b. ♂ ad. Near Pu-an-ting, South-west Kweichu, 22 January, 1899.

c. ♂ ad. Near Yunnan city, East Yunnan, 6 February, 1899.

Specimens *b* and *c* have the top of the head, as well as the back and sides of the neck, very dark slate-grey, and are unlike any examples in the British Museum Collection; they are probably the adult males of Blyth's *T. saturata*, of which only the female was known. The measurements are, moreover, somewhat large.

♂. Total length (in flesh) 15 inches, wing 10, tail 6·8.

♀. Total length (in flesh) 14 inches, wing 9·9, tail 6·5.

Iris dark brown.

108. PHALACROCORAX CARBO.

Phalacrocorax carbo (Linn.); David & Oustal. Ois. Chine, p. 532 (1877); Grant, Cat. B. Brit. Mus. xxvi. p. 340, fig. 1 (1898).

a. ♂ ad. Yuan-chu, Wu-ho River, West Hunan, 22 December, 1898.

Iris blue. Total length 32 inches.

109. MERGANSER SQUAMATUS. (Plate XII.)

Merganser squamatus Gould; David & Oustal. Ois. Chine, p. 511 (1877); Salvad. Cat. B. Brit. Mus. xxvii. p. 478 (1895).

a, b. ♂ ♀ ad. Chien-yang, Yuan River, South-west Hunan, 9 December, 1898.

Iris dark brown.

This species was hitherto known only from an immature male described by Gould in 1864. Capt. Wingate having now procured an adult male and female of this splendid Merganser, I take the opportunity of giving the following description:—

Adult male. Resembles *M. castor* in having the head and neck black glossed with dark green; the chest and rest of the underparts white, washed with pale salmon-buff. It differs from *M. castor* and from all other species of the genus in having the black of the head continued down the middle of the back of the neck to the interscapular region, while the lower back and rump, as well as the longer feathers of the sides, flanks, and under tail-coverts, are white, with one or two narrow concentric black bands, producing an elegant scaled appearance. It resembles *M. serrator* in having two long crests, one situated on the occipital and the other on the nuchal region, the longest feathers of each measuring respectively 4·4 and 4·3 inches; and the exposed basal half of the outer webs of the secondaries and their coverts black, forming two black bars across the wing. From *M. serrator*, to which, perhaps, it is most nearly allied, it may be at once distinguished by the uniform colour of the chest, as well as by the markings of the lower back, rump, flanks, and under tail-coverts.

Iris dark brown. Total length (in flesh) 24 inches, culmen—from feathers on forehead 2·2, from gape 2·7, wing 10·2, tail 4·3, tarsus 1·85.

Adult female. Closely resembles the female of *M. castor*, having the head and neck dark chestnut, with a long, full occipito-nuchal crest, the longest feather measuring 2·6 inches, and the chin and throat pure white.

Iris dark brown. Total length (in flesh) 24 inches, culmen—from feathers on forehead 1·85, from gape 2·4, wing 9·9, tail 3·9, tarsus 1·9.

110. ÆX GALERICULATA.

Aix galericulata (Linn.); David & Oustal. Ois. Chine, p. 501 (1877); Salvad. Cat. B. Brit. Mus. xxvii. p. 76 (1895).

a. ♂ ad. W. China.

b. ♀ ad. Near Kiu-kiang, 17 March, 1898 (e Mus. F. W. Styan).

These specimens were apparently presented to Capt. Wingate by Mr. Styan.

111. GRAPTOCEPHALUS DAVISONI.

Graptocephalus davisoni (Hume); Sharpe, Cat. B. Brit. Mus. xxvi. p. 14 (1898).

a. ♂ ad. South-west Yunnan, April 1899.

Iris yellowish brown. Total length 34 inches.

112. CICONIA NIGRA.

Ciconia nigra (Linn.); David & Oustal. Ois. Chine, p. 450 (1877); Sharpe, Cat. B. Brit. Mus. xxvi. p. 303 (1898).

a. ♂ ad. Near Ching-tung, Yunnan, 9 March, 1899.

Iris yellowish brown. Total length 45 inches.

113. GRUS GRUS.

Grus grus (Linn.); Sharpe, Cat. B. Brit. Mus. xxiii. p. 250 (1894).

a. ♂ ad. Near Yunnan city, East Yunnan, 7 February, 1899.

Iris red. Total length 46 inches.

114. Grus nigricollis.

Grus nigricollis Prjev.; Sharpe, Cat. B. Brit. Mus. xxiii. p. 258 (1894).

a. ♂ ad. Near Yunnan city, East Yunnan, 1 February, 1899.

Iris yellow. Total length 46 inches.

115. Garzetta garzetta.

Herodias garzetta (Linn.); David & Oustal. Ois. Chine, p. 440 (1877).

Garzetta garzetta (Linn.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 118 (1898).

a. ♂ ad. Yuan-chu, Wu-ho River, West Yunnan, 17 December, 1898.

Iris yellow. Total length 28 inches.

116. Ardeola bacchus.

Ardeola prasinosceles Swinh.; David & Oustal. Ois. Chine, p. 443 (1877).

Ardeola bacchus (Bp.); Sharpe, Cat. B. Brit. Mus. xxvi. p. 211 (1898).

a. ♂ imm. Near Yunnan city, East Yunnan, 7 February, 1898.

Iris yellow-green. Total length 19 inches.

117. Microsarcops cinereus.

Chettusia cinerea (Blyth); David & Oustal. Ois. Chine, p. 422 (1877).

Microsarcops cinereus (Blyth); Sharpe, Cat. B. Brit. Mus. xxiv. p. 133 (1896).

a. ♂ ad. Near Yunnan city, East Yunnan, 7 February, 1899.

Iris brown. Total length 15 inches.

118. Ægialitis placidus.

Ægialitis placidus (Gray); David & Oustal. Ois. Chine, p. 428 (1877); Sharpe, Cat. B. Brit. Mus. xxiv. p. 262 (1896).

a. Vix ad. Chien-yang, Yuan River, South-west Hunan, 14 December, 1898.

b. ♀ imm. Chien-yang, Yuan R., South-west Hunan, 15 December, 1898.

Iris dark brown. Total length 9 inches.

119. TRINGOIDES HYPOLEUCUS.

Tringoides hypoleucus (Linn.); David & Oustal. Ois. Chine, p. 467 (1877); Sharpe, Cat. B. Brit. Mus. xxiv. p. 456 (1896).

a. ♂ ad. Chien-yang, Yuan R., South-west Hunan, 13 December, 1898.

Iris dark brown. Total length 7 inches.

120. GALLINAGO GALLINAGO.

Gallinago scolopacina Bp.; David & Oustal. Ois. Chine, p. 478 (1877).

Gallinago gallinago (Linn.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 633 (1893).

a, b. ♀ ad. Near Yunnan city, East Yunnan, 1 February, 1899.

Iris dark brown. Total length 10 inches.

121. LARUS GELASTES.

Larus gelastes Thienem.; Saunders, Cat. B. Brit. Mus. xxv. p. 230 (1893).

a. ♂ ad. S.W. corner of Lake Tung-ting, Hunan, 16 November, 1898.

Iris yellowish brown. Total length 16 inches.

Very common at Lake Tung-ting.

122. CARPOPHAGA BADIA.

Carpophaga badia (Raffl.); Salvad. Cat. B. Brit. Mus. xxi. p. 218 (1893).

a. Ad. South-west Yunnan, April 1899.

Iris white. Total length 18 inches.

123. FRANCOLINUS CHINENSIS.

Francolinus chinensis David & Oustal. Ois. Chine, p. 400 (1877); Grant, Cat. B. Brit. Mus. xxii. p. 136 (1893).

a. ♂ ad. Ching-tung, Yunnan, 8 March, 1899.

Iris brown. Total length 13 inches.

124. ITHAGINIS SINENSIS.

Ithaginis sinensis David; David & Oustal. Ois. Chine, p. 402, pl. 114 (1877); Grant, Cat. B. Brit. Mus. xxii. p. 270 (1893).

a. ♂ ad. Hing-ko-yu, Shen-si.

b. ♀ ad. Sung-pan, N.W. Sze-schuen, March 1897 (e Mus. F. W. Styan).

This species was not met with by Capt. Wingate; this pair were apparently presented to him by Mr. Styan.

125. GENNÆUS NYCTHEMERUS.

Euplocamus nycthemerus (Linn.); David & Oustal. Ois. Chine, p. 416 (1877).

Gennæus nycthemerus (Linn.); Grant, Cat. B. Brit. Mus. xxii. p. 307 (1893).

a. ♂ ad. South-east of Bhâmo, South-western Yunnan, April 1899.

Iris yellow.

126. PHASIANUS TORQUATUS.

Phasianus torquatus Gm.; David & Oustal. Ois. Chine, p. 409 (1877); Grant, Cat. B. Brit. Mus. xxii. p. 331 (1893).

a, b. ♂ ♀ ad. Near Chen-chi, Yuan R., Hunan, 4 December, 1898.

a. Iris yellow. Total length 32 inches.

127. CHRYSOLOPHUS AMHERSTIÆ.

Thaumalea amherstiæ (Leadb.); David & Oustal. Ois. Chine, p. 415, pl. 103 (1877).

Chrysolophus amherstiæ (Leadb.); Grant, Cat. B. Brit. Mus. xxii. p. 342 (1898).

a. ♀ ad. Near Ching-tung, Yunnan, March 1899.

Iris yellow. Total length 25 inches.

128. GALLUS GALLUS.

Gallus ferrugineus (Gm.); David & Oustal. Ois. Chine, p. 420 (1877).

Gallus gallus (Linn.); Grant, Cat. B. Brit. Mus. xxii. p. 344 (1893).

a. ♂ ad. Wei-yüan, east of Upper Mekong R., South Yunnan, 15 March, 1899.

Iris red-brown. Total length 26 inches.

XXXVIII.—*Ornithological Notes in the New Hebrides.*

By A. M. Farquhar, Captain R.N.*

Having spent five months of 1899, viz. from May to October, in the New Hebrides, I think some notes of my cruises in those waters may be of interest to the readers of 'The Ibis.' Roughly speaking, these islands lie between latitudes 15° and 20° South and longitude 166° and 170° East. They are volcanic in nature, the soil consisting of disintegrated lava and coral. There are at least four active volcanoes in the group. All the islands are mountainous, some of the peaks being nearly 6000 feet high. The largest of the islands are Espiritu Santo and Mallicollo; here the natives are still cannibals, which adds some excitement to bird-collecting. I was much assisted in my ornithological pursuits by the officers of H.M.S. 'Wallaroo' and by my steward, James Heaver, who helped me with the skinning.

Arriving at Fila, in the island of Efate, on the 10th of May, I landed that evening. Not many birds were to be seen, except *Artamus melanoleucus*, great numbers of which were hawking round the higher branches of a huge banyan. I came across these Wood-Swallows in various parts of the group; they have a curious habit of sitting in a row along a bare branch, and I generally found them infested with a parasitical fly.

From Efate I went to South-west Bay, Mallicollo, where we stayed some time. The forest here abounds in the fine Pigeon *Globicera pacifica*, the loud booming note of which may be heard at a great distance. When looking for small birds, I found great difficulty in preventing the natives taking me after these Pigeons, as they could not understand why I should trouble about such insignificant little things as Honey-eaters, Flycatchers, *Zosteropes*, &c., when there was bigger game about. *Globicera pacifica* has an extraordinary large lump at the base of the bill. Later on, at Eromanga, I shot a good many Pigeons of this genus, and I then noticed that the Eromanga bird differs considerably in colouring and that the lump on the bill is much smaller than in *Globicera pacifica*; it has now been described as *G. farquhari* (above, p. 349).

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* [These notes were apparently intended as an introduction to Dr. Sharpe's account of Capt. Farquhar's collection of birds (above, p. 337), but did not reach us until after Dr. Sharpe's paper had been published.—Edd.]

It was at South-west Bay that I first made the acquaintance of *Merula mareensis*, being attracted by its alarm-note, which is very like that of our Common Blackbird; it has another note, which may best be described as "siss, siss." It was the only bird of the kind I saw there, though I afterwards found it fairly common at Hog Harbour, Espiritu Santo; it was always extremely wild, and I only shot one during my stay in the New Hebrides. Five others were snared for me by the natives; all six specimens proved unfortunately to be hens. I obtained three or four clutches of eggs, all two in number.

A pretty little green Pigeon (*Ptilopus greyi*) was common; also *Chalcophaps chrysochlora*, which is generally to be found feeding on the ground in the native clearings. The inhabitants catch them by means of an ingenious snare constructed of twigs, with a noose made of fine fibre. *Macropygia rufa* was frequently met with at South-west Bay, though not in such numbers as in cultivated portions of the New Hebrides. Twice, while in the islands, a bright yellow dove of this genus was described to me, but though an officer of H.M.S. 'Wallaroo' once came across it, I failed to obtain a specimen; indeed, by all accounts, it is very rare.

Butorides stagnatilis and *Demiegretta sacra* were common along the edges of the mangrove lagoon, and I found the nests of the latter on a small rocky island, placed on the ground, but it was too early for eggs. As I had come to South-west Bay in H.M.S. 'Wallaroo' for the purpose of punishing the natives implicated in the murder of a trader, it was not safe to stray very far from the ship. My excursions, consequently, were restricted to below an 800-ft. level; indeed I found it difficult while in the islands to get above this height—not, as a rule, on account of the natives, but generally owing to want of time and to the density of the forests and the danger of fever when camping out.

From South-west Bay I went to Pangkumu, east coast of

Mallicollo, where I landed with some of the other officers to shoot ducks in a shallow lagoon. We got a few *Anas superciliosa* and one *Porphyrio smaragdinus*, a handsome Gallinule. Mr. F. Paton, a son of the veteran missionary, heads the mission, and gave me much assistance and information about the natives, who are very wild and treacherous. Among other unpleasant customs, including cannibalism, they have one of burying alive their very old and very sick relatives. Several smiling murderers were pointed out to me, who would have made as good bird-guides as any others.

On the 26th of May I was at Eromanga engaged in surveying Polenia Bay. *Globicera farquhari* is very common here, and we shot a number of this fine Pigeon, and I procured a single specimen of *Petrœca similis*, shot by a native boy with a blunt-headed arrow; later on I obtained two specimens of the nearly allied *P. ambrymensis*, but both species are bush-skulkers and not easy to shoot.

The 17th of June found me on the south coast of Espiritu Santo, at the entrance of the Sarrakatè river, up which I made an expedition. The scenery was lovely as we pulled up between the steep and densely wooded banks, the tops of the giant trees being completely laced over with a thick covering of convolvulus, which prevented the rays of even the tropical sun at high noon from reaching the ground. Great bushes of scarlet hibiscus made splashes of colour against the dark green, but birds were few; an occasional Pigeon crossed high overhead, and *Hirundo tahitica* was hawking over the surface of the water, while now and again we disturbed a Bittern from the mangroves. Three miles brought us to plantations, where bird-life was more plentiful, and I obtained specimens of *Aplonis rufipennis*, another kind of *Zosterops* (*Z. griseonota*), *Collocalia fuciphaga*, and *Halcyon juliæ* (specimens of this Kingfisher I found differed a good deal in the neck-markings). In some parts of Espiritu Santo I found *Lalage flavotincta* fairly common; it is a handsome little bird, with a breast of most delicate yellow.

Early in July we were back at Efate, and an expedition to a neighbouring plantation produced for me four specimens of the charming little Grass-Finch, *Erythrura cyaneifrons*, which was feeding in flocks on the seeds of a tall grass growing in a coffee plantation. I afterwards shot this bird at Dip Point, Ambrym.

After an absence of three weeks from the islands, I returned on the 24th of July to Dillon Bay, Eromanga, where I got three specimens of *Diaphoropterus nævius*, a black and-white bird called by the natives "Oovao," but could hear nothing of "*Turdus albifrons*," although I made many enquiries.

While there I went for a picnic with the missionary, Mr. Robertson, and his charming daughters. We lunched in a beautiful spot close to a stream. A stone's throw away, on the other side, Mr. Robertson pointed out a large rock, on which, after the murder of his predecessor, Mr. Gordon, the natives had placed the body, making a small chip on the rock at his head and feet, as a reminder of his size, he being a very tall man. His wife was clubbed at the same time while in her garden at the top of the cliff opposite, along the face of which I noticed a pair of Owls flying about. These did not come within shot, so I could not determine them for certain, but fancy they were *Strix lulu*, as I shot an Owl of this species later on in Espiritu Santo.

The second week of September found me at Hog Harbour, Espiritu Santo, where I remained some days surveying; it proved the best collecting-ground that I visited. Here there are no traders, and a missionary-station has but lately been established. The neighbouring tribes are generally at war one with another, and the people are very wild. I noticed that they wore bunches of feathers in their hair, almost their only clothing; these bunches were artistically softened in colour by being smoked. I had hoped to get specimens of the Megapode here, but though I offered large quantities of tobacco, the natives failed to trap one, and the birds, which inhabit the thickest bush, are very difficult to shoot, as they run on hearing the slightest noise. I obtained, however, about six of their eggs, quite fresh, and saw their laying-places. The eggs are deposited in the damp decaying wood of one of the fallen giants of the forest, the heat set up by fermentation hatching them. All the places which I saw had already been rifled, so I was unable to make any observations as to the position of the eggs. I obtained two good specimens of a brilliant little Kingfisher, which has since been named *Halcyon farquhari* (suprà, p. 339, Pl. VII.), and two of a new *Cacomantis*, since named *C. schistaceigularis.* One of the officers had shot a bird of this species on a former visit to Hog Harbour, so luckily I was able to show the skin to my native hunter, who, knowing the whistle of the bird in the forest, led me to these two. Here I first became aware that *Pachycephala chlorura* and *Eopsaltria cucullata* are cock and hen, or, as my native called them, "man-bird" and "woman-bird," of the same species, now named *Pachycephala intacta.* He brought me also their nest and eggs, three in number, of a red cream-colour, with dark brown and faint grey markings: 2·5 × 2 centimetres. The nest was made of rootlets and vine-tendrils, slightly bound together with spiders' web, and had an inside diameter of 2½ inches, an outside diameter of 3¾ inches, an inside depth of 1⅝ inches, outside 2½ inches. It was placed on a low tree. I also got the eggs of *Chalcophaps chrysochlora,* which were of a cream-white: 2·8 × 2·1 centimetres. The nest was the usual platform of slight twigs, about 12 feet from the ground. While here I came across the nest and young of *Colocalia uropygialis.* The nests were like very shallow half-saucers of green moss stuck against the side of a huge coral erratic in the middle of the forest. All the eggs were hatched out, but I saw pure white fragments of the egg-shells lying at the base of the rock.

I spent a day or two in the Banks Islands, which are practically a northern continuation of the New Hebrides, from which they can be seen on a clear day. Oddly enough, a totally different species of *Glyciphila* (*G. notabilis*) inhabits this group, or at any rate Vanua Lava, the largest of its islands. It seemed quite common, as was also *Hypocharmosyna palmarum,* which had paired and was feeding in the flowering trees, especially among the blossoms of the custard-apple. Unfortunately my visit to this group was a very short one, and I was only able to land once for collecting purposes.

What struck me most about the birds of the New Hebrides was their extreme wildness, nearly all have to be stalked with the greatest care. I expect, when the islands were more densely populated, small birds were much hunted with bows and arrows for food. As an instance of the decrease of population, the island of Aneityum had by census a population of 3500 in 1859, to-day it has barely 500; Futuna by census a population of 970 in 1870, to-day barely 300.

It is sad to think of these fair islands being swept of their inhabitants; one is inclined to ask if these people were not more comfortable in their days of cannibalism and heathendom than now, when to their other vices they have added those of the white man and his diseases, which have, I fear, taken a quicker hold than the tenets of christianity, in spite of the earnest work of courageous missionaries, to whose kindness and assistance I owe so much.

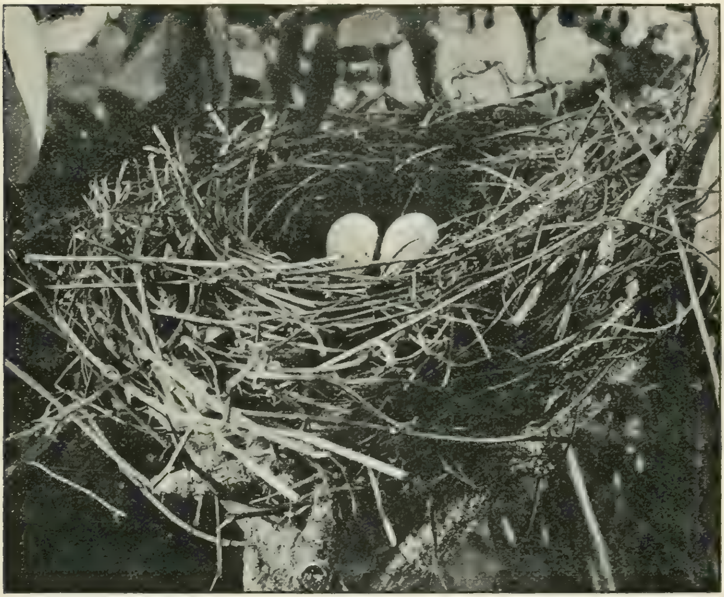
XXXIX.—*Description of some Nests and Eggs from New Guinea.* By D. Le Souëf, C.M.Z.S., Melbourne.

Manucodia atra. (Glossy-mantled Manucode.)

This bird is found generally over New Guinea and also on the adjacent islands, and is especially plentiful in the southern districts. They seem to keep in the dense scrub and are very shy, but can easily be brought up by imitating their drawn-out plaintive whistle. A nest of this bird was found by Mr. C. Barnard on October 6th, 1899, on Sariba Island, which is about four miles from the S.E. coast of New Guinea. The nest was situated about 25 feet from the ground, in a large mangrove-tree near the beach, the water at high tide surrounding the tree. When taking the nest the birds flew about in evident distress, but did not attack the intruder in any way. Mr. Barnard saw another bird on Nov. 2nd carrying twigs in her bill, apparently to build her nest with, but he lost sight of her in the thick scrub.

The nest (fig. 1, p. 613) is an open structure, being composed of twigs and vine-tendrils and lined with the same material, only finer: its external diameter is 11 inches, internal 6 inches; external depth 5 inches, internal 3 inches. There were two eggs in the nest, which is the full clutch; their ground-colour is a purplish white, covered more or less with minute blackish freckles, and also having a few larger dots of a dark purplish brown, and some blotches of a much lighter hue, mostly on the larger end; the markings under the surface are very light purple. They measure: A 1·50 × 1·4, B 1·51 × 1·3 inch.

Fig. 1.

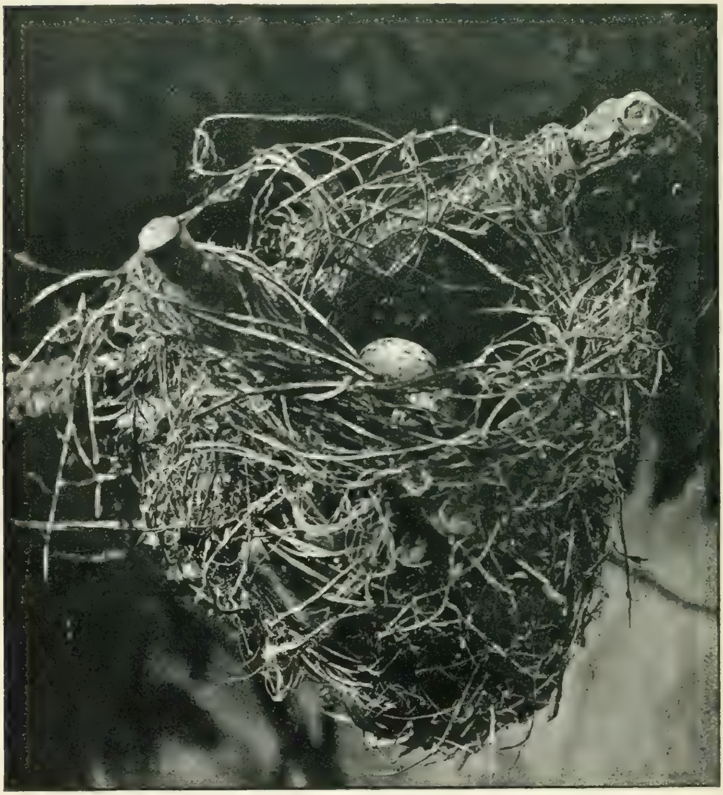


Nest and eggs of *Manucodia atra.*

Philemon novæ-guineæ. (New Guinea Helmeted Friar-bird.)

These noisy birds are fairly plentiful in the open forest country near the coast and on the adjacent islands of Southern New Guinea. They often congregate together on fig and other trees when feeding, and their loud curious note can be heard for a considerable distance. Mr. C. Barnard found one of their bulky open nests on October 30th, 1899, on Sariba Island (see fig. 2); it was suspended in a fork of a branch about 30 feet from the ground. It is a large loosely-built structure and deep, and is composed of lawyer palm-leaves and vine-tendrils, intermixed with a little cobweb; many of the tendrils were frayed out, giving the nest a ragged appearance; it was lined with fine tendrils and a few broken leaves: its external diameter is 6 inches, internal 3½; external depth

Fig. 2.



Nest and eggs of *Philemon novæ-guineæ.*

6 inches, internal 4. There were three fresh eggs in the nest, which probably constitutes the full clutch. They have a light cream ground-colour, plentifully marked with elongated reddish-brown blotches, some overlaying others and of varying density, but more plentiful on the larger end; the markings under the surface are light purple. They measure: A 1·27 × 0·90, B 1·30 × 0·91, C 1·28 × 0·87 inch.

GRAUCALUS PAPUENSIS.

This bird is very similar to *G. mentalis*, especially in certain phases of its plumage. Mr. Barnard saw a few at Sariba Island, and generally noticed them singly. He found a nest containing one young bird, built on a tree which overhung the water at high tide. Another nest was found on October 30th, 1899, with one fresh egg; it was built in a fork of a breadfruit-tree, about 30 yards from a native village and in open country. The bird flew right away as soon as the nest was approached; it was an open shallow structure and difficult to distinguish from any distance; it is composed of vine-tendrils and fine twigs and covered with cobwebs, on which are fastened pieces of lichen; it measures—external diameter 3 inches, internal 2; external depth 1½ inch, internal ½. The single egg is somewhat similar to that of *G. lineatus*, but very different from those of the other members of the family. Its ground-colour is a delicate pale green, with dark brown markings, mostly on the larger end, where they form an irregular zone; the markings under the surface are grey. It measures 1·20 × 0·80 inch.

PTILOTIS GRACILIS.

Mr. Barnard secured a specimen of this bird on Sariba Island, which is interesting, for, so far as I know, it has been recorded only from N.E. Australia. The birds were far from shy, remaining on their nests until the intruder was right alongside. Two nests were found, both containing two eggs. They were built of frayed grass, broken leaves, and cobwebs, and lined inside with the white down from the seed-pod of the native cotton-tree. They were suspended from a thin fork near the end of a branch, and measure—external diameter 2½ inches, internal 2; external depth 2¾ inches, internal 1¾. The eggs are slightly larger and lighter in colour than those found in Australia, having a pale reddish-white ground-colour, with a zone round the larger end of very dark brown markings; the smaller end is very blunt; and they measure: A 0·86 × 0·58, B 0·79 × 0·56 inch.

PTILOPUS CORONULATUS.

These beautiful little Green Fruit-Pigeons are most difficult to detect among the thick green foliage in which they make their home, and one is fortunate to be able to secure a specimen. They have the curious habit of laying their single egg on the leaf of a palm-tree, as when these large leaves branch out horizontally they are slightly concave, and often have a few dead leaves and twigs on their surface that have fallen from the surrounding trees. This Pigeon just lays its egg on the leaf, but makes no nest of any kind, and directly anyone approaches the sitting bird darts off and flies away as if wounded, and is soon lost to sight; but Mr. Barnard succeeded in securing one bird as it flew off its egg, which was on a palm-leaf about 3½ feet from the ground. The egg is creamy white and an elongated oval, and measures 1·24 × 0·72 inch.

DACELO GAUDICHAUDI.

Mr. Barnard noticed these birds generally in the dense scrub, both on the hill-tops and near the beach. They were plentiful, and generally seen in pairs, but occasionally a few birds congregated together to utter their curious note in chorus; it is something like the laughing sound made by the *Dacelo gigas*, but not so loud. If their eggs are well incubated, they dart at the intruder if he goes near the nest; but if the eggs are fresh they do not, but only fly about close by. Mr. Barnard found four of their nests on Sariba Island. They were hollows made in the mounds which the termites had constructed in the trees, of varying heights from the ground, from 4 to about 40 feet. The nest has no lining; they lay their eggs on the dry soil, of which the mound is composed. The hole the birds make is small compared with the size of the birds themselves. Two eggs are laid, being pure white and well glossed. They measure: A 1·58 × 1·14, B 1·48 × 1·15 inch. These specimens were found on the 4th of October, 1899.

XL.—*The Birds of North Queensland.*—Part I. *On two Collections from Cooktown and the Neighbourhood of Cairns.* By Herbert C. Robinson and W. S. Laverock, M.A., B.Sc., Assistant in the Derby Museum, Liverpool. *With Field-notes by* E. Olive.

About the middle of last year Mr. E. Olive of Cooktown, a port situated on the east coast of Queensland, about 400 miles south of Cape York, the northernmost point of Australia, sent to one of us a small collection of birds which, though limited in extent, contained examples of several species of considerable interest. At our suggestion he somewhat later proceeded to Cairns, some 100 miles south of Cooktown, where he collected on the slopes of the Bellenden-Ker mountains, which attain an altitude of 5500 feet, being the highest in Queensland. The collections there formed were principally from the lower slopes of Mount Sapphiri (which is probably the Mount Sophia of the Admiralty Chart), and from Mount Bellenden Ker itself, which was ascended on three occasions. Here a camp was formed for about a week at an altitude of somewhat over 4000 feet, whence the mountain was worked to the summit. The collections from high elevations are unfortunately not so exhaustive as might have been hoped, for, owing to the unusual wetness of the season the mountain was enveloped in a perpetual fog, which made collecting a matter of extreme difficulty, and in addition the majority of the birds were in full moult.

Nevertheless the material obtained does not appear to bear out Mr. De Vis's statement (Rep. Scient. Exp. N.E.

Queensland), that there is no change of fauna at higher elevations. Many species do not appear to range above 2000 feet, while others seem to be of only exceptional occurrence below that elevation.

The fauna of the Cape York Peninsula is well known to present well-marked Papuan affinities, as is shown by the occurrence of such genera as *Rhododendron* in plants, *Syma*, *Tanysiptera*, and *Casuarius* in birds, and *Dendrolagus*, *Cuscus*, and *Dactylopsila* in mammals. In fact, it would appear that the portion of Australia between Cape York and the mouth of the Herbert River and east of the watershed should be regarded as a well-marked division belonging quite as much to the Papuan as to the Australian faunal region.

In the following list we have indicated by a * those species which occur only in the Cooktown Collection, while those which we have received from Cairns only have a † attached; species represented in both collections being unmarked.

1. *Urospizias approximans (Vig. & Horsf.).

Astur approximans Sharpe, Cat. Birds Brit. Mus. i. p. 126 (1874).

A small series of adult and immature birds.

"Shy and not particularly plentiful. Iris and feet yellow; bill black" (*Olive*).

2. *Leucospizias cinereus (Vieill.).

Astur cinereus Sharpe, t. c. p. 117.

Several specimens of both sexes, all of which have the ashy-brown semilunar marks on the feathers of the breast supposed to indicate immaturity.

"Of only occasional occurrence. Iris and feet yellow; bill black" (*Olive*).

3. *Erythrotriorchis radiatus (Lath.).

Urospizias radiatus Sharpe, t. c. p. 159.

Of this rare Goshawk we have received a single slightly immature male in somewhat worn plumage.

"Iris brown; feet yellow; bill black. Birds and insects in crop" (*Olive*).

4. *Accipiter cirrocephalus (Vieill.); Sharpe, t. c. p. 141.

Two females, both in immature plumage; one of them shot in June is moulting into the adult livery, as one or two fresh feathers with cross-bars are showing on the breast.

"Plentiful, but shy and extremely difficult to procure, as they fly very high. Iris and feet yellow; bill black" (*Olive*).

5. Baza subcristata (Gould); Sharpe, t. c. p. 357.

Evidently somewhat difficult to procure, though not really rare; we have received two adults only, one from Cooktown and the other from the neighbourhood of Bellenden Ker.

Regarding the latter Mr. Olive remarks that the species is not uncommon on the margins of the thick scrubs, where it is frequently to be seen perching on the loftier branches of dead trees, but there is difficulty in getting within shooting-distance. Iris yellow; feet bluish white; upper mandible black, lower yellowish.

6. *Haliastur girrenera (Vieill.); Sharpe, t. c. p. 315.

A single adult female.

"Found singly in forest country near the sea, but not at all plentiful: shy, and usually flies at a great elevation. Iris brown; feet dirty white; bill slate-grey" (*Olive*).

7. *Haliastur sphenurus (Vieill.); Sharpe, t. c. p. 316.

A pair of somewhat immature birds.

"A carrion-feeder: circles in the air at a great height looking for food. Twenty or thirty may be occasionally found feeding on a dead beast, some even going inside the carcase. I have noticed that they are able to tear up and devour their food on the wing. Iris brown; feet whitish; bill blackish slate" (*Olive*).

8. *Hieracidea orientalis (Schleg.); Sharpe, t. c. p. 422.

A small series of young and adult birds of both sexes.

9. *Hieracidea berigora (Vig. & Horsf.); Sharpe, t. c. p. 421.

A pair of adult birds.

It seems strange that this species and the preceding, which appear to be representative forms of one another, should occur in the same district. *H. berigora* is generally considered to be a dry country form of *H. orientalis*. Both species, however, have been recorded from Port Moresby, and a third form, *H. novæ-guineæ* Meyer, has been described from German New Guinea.

10. *PANDION LEUCOCEPHALUS Gould; Sharpe, t. c. p. 451.

Two females.

"Very shy and scarce: generally found in pairs in the neighbourhood of the sea, but sometimes further up the Endeavour River. Iris yellow; feet bluish white; bill black" (*Olive*).

11. *STRIX CANDIDA Tick.; Sharpe, Cat. Birds Brit. Mus. ii. p. 308 (1875).

"Scarce. Iris black; feet and bill whitish horn-colour. Insects in crop" (*Olive*).

12. *STRIX DELICATULA Gould.

Strix flammea Sharpe, t. c. p. 291.

"Iris black; feet brown; bill whitish horn-colour" (*Olive*).

13. *HIEROGLAUX HUMERALIS (Hombr. & Jacq.).

Ninox humeralis Sharpe, t. c. p. 180.

A single specimen, of which the label has unfortunately been lost, agrees well with an example of this species from New Guinea with which we have compared it. It has been previously recorded as Australian by Mr. De Vis (Ann. Rep. Brit. New Guinea, Append. EE, p. 99, 1894).

14. †HIEROGLAUX CONNIVENS (Lath.).

Ninox connivens Sharpe, t. c. p. 176.

A single male from Mt. Sapphiri, Cairns.

This specimen has the stripes on the flanks somewhat more reddish-brown, and the coloration of the upper surface rather paler than the typical form.

In this it would appear to agree with the form separated as *Ninox peninsularis* Salvad., which, however, is described as being very considerably smaller than typical *H. connivens*.

The present bird, however, is fully equal in size to average specimens of *H. connivens,* having the wing 311 and the tail 191 mm.

"Scarce and shy: the specimen sent was shot roosting on the limb of a tree during the day. Iris yellow; feet yellow; bill yellow, with a black tip. A rat and some insects were in the stomach, and the orbital cavity was infested with a species of Entozoon" (*Olive*).

15. *Spiloglaux ocellata (Hombr. & Jacq.).

Ninox ocellata Sharpe, t. c. p. 170.

The two specimens sent agree well with one collected by Everett in Savu.

"Scarce and shy, spending the day in hollow trees. Iris yellow; feet whitish; bill black" (*Olive*).

16. †Spiloglaux lurida (De Vis).

Ninox lurida De Vis, Rep. Sci. Exped. N.E. Queensland, p. 31 (1889); North, Cat. Birds Austral. Mus., Striges (2nd ed.) p. 16 (1898).

A single female of this species was shot on Dec. 12th at the foot of Bellenden Ker. It is apparently quite distinct from *Spiloglaux boobook,* from which it is at once distinguished by its very much smaller size. Wing 211, tail 128 mm.

"Apparently fairly common, judging by the noise they make at night, but very difficult to obtain. The present specimen was one of four which were found perched on one tree. Iris yellow; feet whitish horn; bill black, the culmen bluish slate. The stomach contained insects" (*Olive*).

17. Strepera graculina (White); Sharpe, Cat. Birds Brit. Mus. iii. p. 57 (1877).

At Cooktown this species occurs only during the three winter months, but in the higher ranges round Cairns it is apparently found throughout the year, as specimens were shot on the summit of Mount Bellenden Ker at the commencement of December.

All the specimens sent are somewhat smaller than others from New South Wales, as the following dimensions show:—

	Wing. mm.	Tail. mm.	Culm. mm.	Tars. mm.
Cooktown, Aug., 2 ♂	241–243	179–182	60–61	46–48
,, ,, 2 ♀	230–233	171–173	53·5–57	45–46
Mt. Bellenden Ker, Dec., 4 ♂.	240 249	184–190	57–62	46–53
,, ,, ,, ♀ . .	228	178	54	45
N.S. Wales (Liverp. Mus.) . .	266–270	211–216	52–61	49–51

18. †Ptilorhis victoriæ Gould; Sharpe, t. c. p. 155.

A very extensive series from Mount Sapphiri and Bellenden Ker; about half the number are males in full breeding plumage, which seems to have been recently acquired, the remainder being either females or males in non-breeding plumage resembling the females. In the large series before us the character of the markings on the under surface varies much, one specimen being entirely uniform fawn beneath, while in young birds the black **V**-shaped bars are very marked.

"Occurring singly in the lower branches of trees in scrub country: very shy but exceedingly plentiful Breeding males have the iris brown; feet and bill black; and the angle of the gape yellowish. Other specimens are similar, but have the feet either blackish slate or bluish white. The species does not occur above about 2500 feet" (*Olive*).

19. Prionodura newtoniana De Vis, Proc. Linn. Soc. N.S.W. vii. p. 582; Robinson, Bull. Liverp. Mus. ii. p. 116 (1900).

We have (*loc. cit.*) recorded a specimen from Cooktown, which is apparently the extreme northern limit of the species.

We have also received a large series from Mt. Bellenden Ker, shot at an altitude of 4000–5000 feet. According to Mr. Olive, it is plentiful above 2000 feet, but he states that he has not seen any in the low country. The bower is generally built against a tree growing on a slope, and is 3 feet long by 2 feet thick and about 3 feet in height; there are generally four passages meeting at right angles in the centre of the bower, though some have three openings and others none at all. A little fruit is scattered about in and outside the bower.

Iris yellowish white; feet black (in younger specimens greenish slate); bill brown.

20. †Tectonornis dentirostris (Ramsay).

Scenopæus dentirostris Sharpe, Cat. Birds Brit. Mus. vi. p. 394 (1881).

Occurring in company with the preceding species on the higher levels of Mt. Bellenden Ker.

Iris brown; feet greenish white; bill black.

The "playground" of this species is a bare space 6 × 4 feet, cleared of sticks and old leaves and ornamented with freshly plucked green leaves placed with the upper surfaces downwards. The birds amuse themselves by hopping about in this open space and arranging and rearranging these leaves.

This genus is evidently a transitional form between *Chlamydera* and the Gardener Bower-birds (*Amblyornis*) of New Guinea.

21. †Ælurœdus maculosus Ramsay; Sharpe, t. c. p. 385.

Many specimens.

Evidently exceedingly common in the dense scrubs of the coast range, although rather difficult to procure as it is very shy and in plumage assimilates closely to the surrounding foliage. "Iris red; feet lightish slate or greenish slate; bill bluish white" (*Olive*).

A nest with two eggs in an advanced state of incubation was procured on November 22nd, and the *male* bird was shot off the nest, which is bowl-shaped in form, 160 mm. in external diameter and 120 mm. internal. Its external depth is 110, internal 50 mm. It is composed almost entirely of fine twigs neatly wound round and covered on the outside with the leaves of what is known locally as the Moreton Bay Chestnut, some of which are partially skeletonized. It was situated in dense scrub on the branch of a tree at a height of some 15 feet above the ground. The eggs are somewhat swollen ovals of a delicate creamy yellow approaching the colour of old ivory, and with a smooth shining surface. They measure: A, 41 × 31 mm.; B, 38 × 29 mm. (approx.).

A third egg obtained on December 12th measures 38 × 28·5 mm.

22. *Chlamydera orientalis Gould.

Chlamydodera orientalis Sharpe, t. c. p. 389.

Six specimens, all males, from Cooktown have been sent, shot in June and July, two of which are just assuming the lilac occipital patch. "Iris white; feet slaty green; bill black" (*Olive*).

23. *Grallina picata (Lath.); Sharpe, Cat. Birds Brit. Mus. iii. p. 272 (1877).

A single specimen of this widespread Australian form.

"Iris white; feet black; bill white. Food, insects" (*Olive*).

24. Chibia bracteata (Gould); Sharpe, t. c. p. 236.

Many specimens of this common North Australian bird from Cooktown and the coast-ranges south of Cairns. At Cooktown, according to Mr. Olive, it is somewhat scarce in summer though plentiful in winter. "Iris red; bill and feet black" (*Olive*).

The nests and three clutches of eggs were also procured in November and December. One clutch consisted of one egg and the other two of three each, which is probably the normal number, while two nests each containing three freshly hatched birds were obtained on December 12th. The nest was placed on the limb of a tree about 20 feet above the ground in an open country, and is a loose structure composed entirely of the branched tendrils of some climbing plant. It is rather shallow and roughly circular in form, measuring 145 mm. in diameter and 82 mm. in depth externally, and 95 × 52 mm. internally.

The eggs are a slightly pointed oval of a dull chalky white, moderately spotted, especially at the larger end, with medium-sized purplish-brown blotches, many of which appear as if beneath the surface of the shell.

One clutch obtained on December 8th measures: A, 29 × 21; B, 28·5 × 21·5; C, 29 × 22 mm.

25. Mimeta flavicincta King.

Oriolus flavicinctus Sharpe, t. c. p. 206.

Oriolus viridissimus Sharpe, t. c. p. 207.

A considerable series of old and young birds from the same localities as the preceding species. The young birds agree well with the description of *O. viridissimus* Heine, as given by Sharpe (*loc. cit.*), which species is evidently not tenable. It is curious that in this species the young birds should be so much brighter in coloration than the adults, which is not the case in other species of *Mimeta*.

Adult birds have the iris red; feet slate; bill brownish red. Younger birds have the bill and feet black; iris brown.

26. *Mimeta sagittata (Lath.).

Oriolus viridis Sharpe, t. c. p. 212.

Six specimens from Cooktown, shot in June and September.

"Found plentifully in forest-country either in flocks or in pairs, feeding on the fruit of a species of *Ficus*. Iris red; feet slate; bill reddish brown" (*Olive*).

The material at our disposal is not sufficient to settle whether the form described as *M. affinis* (Gould) from Port Essington is valid, and, if so, whether these specimens should be referred to it.

After examining Gould's types, Mr. Whitmer Stone (Proc. Philad. Acad. 1891, p. 450) has stated that *M. affinis* is a perfectly valid species. Australian ornithologists recognize both forms and record them as occurring together in Northern Queensland (*cf.* Ramsay, Tab. List Australian Birds, pp. 11, 32, 1888).

Both forms certainly appear to be represented amongst thirteen specimens now before us from various parts of Northern Queensland. But whether those birds which assimilate most closely to *M. affinis* are merely immature specimens of *M. sagittata* (as we are inclined to think) we cannot at present decide.

The name *M. viridis*, hitherto universally used for the

Southern species, is unfortunately untenable, being founded on the *Green Grackle* of Latham (Gen. Syn. Suppl. ii. p. 129, 1801), subsequently Latinized as *Gracula viridis* (Ind. Orn. Suppl. p. xxviii, 1801). On reading the original description, however, it is obvious that it really applies to the Australian Cat-bird, *Ælurœdus viridis*, to which, indeed, it has been applied by Dr. Sharpe (Cat. Birds Brit. Mus. vi. p. 385), evidently forgetting that he had previously referred the same description to the bird we are now discussing. The proper name, then, for the present species is *Mimeta sagittata*, founded on the *Striated Roller* of Latham (Gen. Syn. Suppl. ii. p. 122, 1801), Latinized as *Coracias sagittata* (Ind. Orn. Suppl. p. xxvi, 1801).

The specimen on which this name was founded passed into Lord Derby's Collection, and is fortunately still in existence in the Liverpool Museum.

27. SPHECOTHERES FLAVIVENTRIS Gould; Sharpe, t. c. p. 225.

Many specimens from both Cooktown and Cairns, where it seems to be one of the commonest birds.

"Adult males have the iris brown; bill black; feet pink; and the bare skin round the eyes red. Females and young males: iris brown; feet slate; bill brownish; orbital skin slate" (*Olive*).

The series of immature males that is before us affords very strong evidence that this species attains its adult plumage, partially at least, by direct colour-change in the feather, as many of the breast-feathers of the specimens before us have a marked yellow edging, whilst still retaining the brown shaft-stripe characteristic of the immature plumage. We have also received a clutch of two eggs obtained on December 30th in a high forest-tree 25 feet above the ground; they are of a very pale brownish olive with a tinge of green, thickly spotted, more especially towards the smaller end, with medium-sized reddish-brown spots; in shape they are a very pointed oval, almost pyriform. They measure: A, 30 × 22·5; B, 29 × 23 mm.

28. †Collyriocincla boweri Ramsay, Proc. Linn. Soc. N.S.W. x. p. 244.

One specimen, confounded with the two succeeding species by Mr. Olive, agrees well with two specimens in the British Museum collected by Cairns and Grant.

It is undoubtedly very distinct, and might be described as a diminutive richly-coloured race of *C. harmonica*. Whole upper surface dull lead-grey; the primaries dull brown edged with pale brown exteriorly; lores whitish, an ill-defined stripe from the lores to the eye rufous. Under surface pale rufous, the feathers of the throat and upper breast with strongly marked grey shaft-stripes. "Bill *black*; feet reddish brown; iris brown" (*Olive*).

Measurements: total length 200, wing 104, tail 85, tars. 27, culm. 23 mm.

29. *Collyriocincla cervineiventris North, Rec. Austr. Mus. iii. p. 49 (1897).

A single male from Cooktown agrees fairly well with the diagnosis of the above species, which is described as coming from the Dawson River, Central Queensland. Iris, bill, and feet brown.

The measurements of the specimen before us are: wing 96, tail 81, tars. 26, culm. 21 mm.

We are by no means sure that this species will not ultimately prove to be founded on specimens of the true *C. rufigaster* Gould, in somewhat bleached plumage—*i. e.*, specimens from districts of low rainfall.

29 a. †Collyriocincla gouldi (G. R. Gray).

Myiolestes gouldi G. R. Gray, P. Z. S. 1859, p. 180 (young?).

? *Myiolestes griseatus* G. R. Gray, t. c. p. 180 (old?).

Colluricincla parvissima Gould, Ann. & Mag. N. H. (4) x. p. 114 (1872) (young).

Pinarolestes rufigaster Sharpe (nec Gould), Cat. Birds Brit. Mus. iii. p. 296 (1877).

We have had many specimens before us (males and females) which must be referred to this species: evidently a smaller and more richly coloured race of *C. rufigaster*. The measurements are:—

	Wing. mm.	Tail. mm.	Tars. mm.	Culm. mm.
(1) ♂. Bellenden Ker, Nov.......	88	72	26	23
(2) ♂. ,, ,, Dec.......	89	78	25	21
(3) ♀. ,, ,, ,, ...	86	72	25	22
(4) ♀. ,, ,, ,, ...	87	76	26	23
(5) ♂. Mt. Sapphiri, Oct.......	88	79	26	22
(6) ♀. Bellenden Ker, Nov.......	86	78	26	22

As regards its name, it is obvious that *Myiolestes gouldi* G. R. Gr. should be employed in preference to *C. parvissima* Gould, which was published 14 years later.

30. GRAUCALUS HYPOLEUCUS Gould; Sharpe, Cat. Birds Brit. Mus. iv. p. 36 (1879).

A large series from Cooktown and Mount Sapphiri. Iris brown; feet and bill black. A nest, obtained on December 12th at Bellenden Ker, was situated in the fork of a tree, about 25 feet from the ground, and contained one fresh egg, which is oval, measuring 30 × 21·5 mm., of a dull olive-green, thickly marked with dull reddish-brown blotches, which form a zone at the larger end.

31. *GRAUCALUS MELANOPS (Lath.); Sharpe, t. c. p. 30.

Adult and immature birds of both sexes were shot at Cooktown in June and July. Iris &c. as in the preceding species.

32. GRAUCALUS SWAINSONI Gould.

Graucalus lineatus Sharpe, t. c. p. 40.

Somewhat scarce at Cooktown, but evidently much commoner round Cairns. "Iris yellowish white; feet and bill black" (*Olive*).

Immature birds have the feathers of the rump and lower back tipped with white, the white bars on the lower surface broader than in older birds, and the under wing-coverts and axillaries pure white, only faintly barred with black.

A still younger specimen has obsolete barrings on the throat and upper breast.

33. Edoliisoma tenuirostre (Jard.); Sharpe, t. c. p. 55.

"Generally found in company with *Graucalus melanops*, but by no means common. Iris brown; bill and feet black" (*Olive*).

34. *Lalage karu (Less. & Garn.); Hartert, Nov. Zool. v. p. 524 (1898).

Lalage leucomelæna Sharpe, t. c. p. 106 (partim).

Two males and a female from Cooktown.

"Very plentiful and not shy; generally in pairs. Iris brown; bill and feet black" (*Olive*).

35. *Piezorhynchus nitidus Gould; Sharpe, t. c. p. 416.

Two males.

"Plentiful in the mangrove swamps. Iris brown; feet black; bill slate with the tip black." (*Olive*).

36. †Piezorhynchus gouldi (G. R. Gr.); Sharpe, t. c. p. 419 (partim).

Two specimens, also a nest and eggs, in almost every respect indistinguishable from the nest and eggs of *Arses candidior* described by Mr. Le Souëf in 'Ibis,' 1897, p. 397.

37. †Monarcha melanopsis (Vieill.); Sharpe, t. c. p. 430.

"Iris brown; feet black; bill slate" (*Olive*).

38. †Arses kaupi Gould; Sharpe, t. c. p. 411.

"Fairly plentiful in scrub country, and not shy; they run up and down the tree-trunks somewhat like a Creeper. Iris brown; feet black; bill bluish slate; wattle round eye royal blue" (*Olive*).

39. †Heteromyias cinereifrons (Ramsay); Sharpe, t. c. p. 239.

Three specimens. Apparently an upland species found above 2000 feet.

According to Mr. Olive they are ground birds, and only take refuge in the trees when disturbed. "Iris brown; feet whitish; bill black with a white tip" (*Olive*).

40. †Pœcilodryas nana (Ramsay); Sharpe, t. c. p. 245.

A single female from Bellenden Ker apparently belongs to this species.

"Scarce, but not shy; generally in pairs; frequents low shrubs. Iris brown; feet flesh-colour; bill brown" (*Olive*).

41. †Malurus amabilis Gould; Sharpe, t. c. p. 293.

A small series comprising adult males (*M. amabilis*), adult females (*M. hypoleucus*), and young birds of both sexes in the brown plumage characteristic of immature birds belonging to all species of the genus.

"Plentiful, occurring in small parties of one adult male and four or five young males and females, and frequenting low shrubs. Adult males have the iris black, feet brown, bill black; an adult female, iris black, feet flesh-colour, bill black; and young birds, iris brown, feet and bill light brown" (*Olive*).

42. †Geocichla cuneata De Vis, Proc. Roy. Soc. Queensl. vi. p. 243 (1889); Seebohm, Mon. Turdidæ, part i. pl. vii. (1898).

Shot at an altitude of over 2000 feet on Bellenden Ker, and the only one as yet seen by Mr. Olive.

"Iris brown; feet whitish brown; bill brown" (*Olive*).

A fairly distinct species, readily distinguished from all the other Australian *Geocichlæ* by its very long bill.

43. †Cisticola exilis (Lath.); Sharpe, Cat. Birds Brit. Mus. vii. p. 271 (1883).

A pair only, from Bellenden Ker; the male in the plumage described by Gould as *C. ruficeps*. "Generally three or four together, always in long grass. Iris brownish white; feet flesh-colour; bill brown" (*Olive*).

44. †Psophodes crepitans lateralis North, Records Australian Mus. iii. p. 13 (1897).

Numerous specimens agreeing well with the description and dimensions given by Mr. North, the female being a very much smaller bird than the male.

"Fairly plentiful in scrub country, but of very skulking habits, keeping almost exclusively to the ground; they are generally found in parties of three (two adults and a young bird). The feathers on the top of the head form a crest, which can be erected at will. Iris brown; feet and bill black" (*Olive*).

45. †Orthonyx spaldingi Ramsay; Sharpe, t. c. p. 331.

We have received a fine series of this very distinct species, including immature birds. A young male has the upper surface much as in *O. spinicauda*, and the under surface dull rusty brown, each feather broadly edged with blackish, while one or two white feathers of the adult plumage are just appearing. In somewhat older males the lores and sides of the head are rufous as in the female.

"Scarce and shy; found in much the same situations as the preceding species, and, like them, keeping entirely to the ground; they are very noisy when disturbed, and if only wounded when shot, will take shelter in the first hole available. Iris brown; feet and bill black; skin round the eye bluish white" (*Olive*).

46. †Pachycephala gutturalis (Lath.); Gadow, Cat. Birds Brit. Mus. viii. p. 192 (1883).

? *Pachycephala queenslandica* Reichenow, Ornith. Monatsb. vii. p. 8 (1899).

"Four males, shot at high elevations on Mt. Bellenden Ker, seem to belong to this species. "Iris brown; bill and feet black" (*Olive*).

47. *Pachycephala rufiventris (Lath.); Gadow, t. c. p. 208.

Two males and two females from Cooktown.

One male shot in June differs from the other in having broad black shaft-stripes to the feathers of the crown. "Iris red; feet brown; bill black" (*Olive*).

48. *Cracticus nigrogularis picatus Gould; Gadow, t. c. p. 96.

A single adult female from Cooktown shot in November. "Iris brown; feet black; bill slate-colour tipped with black" (*Olive*).

From its dimensions—wing 161, tail 130, culmen 39·5, tarsus 31 mm.—it is evident that this specimen must be referred to this race, originally described from Port Essington, but which has not (so far as we are aware) been hitherto recorded from further east than the Gulf of Carpentaria.

49. CRACTICUS RUFESCENS De Vis, Proc. Linn. Soc. N.S.W. vii. p. 562 (1883); Sharpe in Gould's Birds of New Guinea, iii. pl. xvi. (1887); Rothsch. Bull. B. O. C. vol. x. p. xl; id. Ibis, 1900, p. 374.

Cracticus quoyi auct. from Eastern Australia.

It is after very considerable hesitation that we have come to the conclusion that all specimens of the black *Cracticus* from Eastern Australia must be referred to *C. rufescens* De Vis. This name, however, is rather misleading, as it is only the young bird that is rufescent.

In the course of the last three months some thirty specimens of the species from Cooktown and Cairns have passed through our hands. Of these, three have been in the plumage figured and described as *C. rufescens*. In one specimen, however, several of the primaries were black, and in another the under wing-coverts were partially black. We had called Mr. Olive's special attention to the point, and he assures us that the *C. rufescens* in brown plumage sent from Bellenden Ker was found associating with the black-plumaged birds, and that he had no doubt whatever that they were one and the same species, as he has stated on the label. The large series of birds in black plumage present certain difficulties among themselves, some being less lustrous than others, and having the basal portions of the flank-feathers greyer; but they cannot certainly be distinguished from the Port Essington and New Guinea bird, which is, however, *black in every stage* of plumage.

"Found generally in thick scrub country, and only plentiful during the winter months. Iris brown; feet black; bill black, the basal portion bluish" (*Olive*).

50. †DICÆUM HIRUNDINACEUM (Lath.); Sharpe, Cat. Birds Brit. Mus. x. p. 19 (1885).

Two males from Bellenden Ker.

"Rather scarce; generally in pairs, and always in trees near the ground. Iris brown; bill and feet black. Food, insects" (*Olive*).

51. †Cinnyris frenata (S. Müll.); Gadow, Cat. Birds Brit. Mus. ix. p. 85 (1884).

Several males from Bellenden Ker, and a female with the nest and two eggs from Mount Sapphiri.

"Iris brown; feet and bill black" (*Olive*).

The nest is a spindle-shaped structure 420 mm. long, and 30 mm. wide at its widest part, of which 120 mm. of the middle third is occupied by an elliptical chamber lined with feathers and the pappus of some composite plant. It is composed of a felted mass of spider-web and skeletonized leaves, and is rather thickly covered with irregular strings or masses of the excrement of caterpillars (the occurrence of which may be purely accidental), and is attached to the long trailing runner of a grass overhanging the steep bank of a creek. The eggs, two in number, are pointed ovals of a whitish ground-colour, very thickly and evenly clouded with fine mottling of a greenish-brown tint, so thickly, indeed, at the larger end as to obscure the ground-colour of the eggs, which measure, A 17 × 12 mm., B 17 × 12·5 mm.

52. Myzomela obscura Gould; Gadow, t. c. p. 143.

"Iris brown; feet brown or greenish slate; bill black. Food, honey" (*Olive*).

53. †Ptiloti notatas Gould.

Ptilotis analoga Gadow, t. c. p. 227 (partim).

A small series apparently belonging to this species, and not to the closely allied *P. gracilis*.

"Iris brown; feet slate; bill black; gape yellow" (*Olive*).

54. †Ptilotis macleayana Rams.

Ptilotis flavistriata Gadow, t. c. p. 232.

Three males of this interesting Honey-eater from Mount Sapphiri. Iris &c. as in the preceding species.

This species is apparently of very limited distribution; it does not, so far as we are aware, occur south of Cardwell, and reaches its northern limit at Cooktown, where one of us (H. C. R.) obtained two specimens in Aug. 1896.

55. †Ptilotis frenata (Ramsay); Gadow, t. c. p. 231.

Three specimens were secured on Mount Bellenden Ker at an altitude of over 2000 feet.

"Plentiful; occurring either in pairs or flocks, especially on trees in bloom, feeding on the nectar. Iris slatish blue; feet slate; bill black, the basal portion yellow; periocular skin whitish" (*Olive*).

56. †Glyciphila modesta G. R. Gr.; Gadow, t. c. p. 215.

A pair of this sombre-coloured little bird, with their nest and eggs, were secured on Nov. 1st. "Iris, feet, and bill reddish brown" (*Olive*).

The nest, which is a slightly elongated purse-shaped structure, was found suspended to the terminal twigs of a small Eucalyptus on the banks of a creek, about five feet above the water. It is almost entirely composed of the papery bark of the Ti tree, and is furnished with a flat covering or dome woven into the leaves of the Eucalyptus to which it is attached. Two fresh eggs were in the nest: they are slightly elongated ovals, somewhat pointed at one end, of a pearly white with a few scattered spots of a dull blackish brown, which form an ill-defined zone at the larger end, the spots being very much larger on one egg than the other. They measure: A 16·5 × 12 mm., B 17 × 13 mm. A single egg obtained on the same date has the markings more evenly distributed, and measures 17 × 13 mm.

57. †Philemon buceroides Swainson; Gadow, t. c. p. 272.

"Iris brown; feet slatish green; bill black; bare parts black" (*Olive*).

58. †Philemon citreogularis (Gould); Gadow, t. c. p. 277.

A single specimen from Mount Sapphiri, marked female and apparently young, as it has the chin and throat yellow, though the peculiar whitish spatulate tips to the breast-feathers, usually a sign of maturity, are well developed. "Iris brown; feet slate; bill black; bare parts slate" (*Olive*).

59. *PHILEMON ARGENTICEPS (Gould); Gadow, t. c. p. 270.

"Found in flocks; are very noisy and pugnacious birds, generally frequenting trees in flower and feeding on the insects attracted thereby. Iris red; feet and bill black; bare parts slaty black" (*Olive*).

60. †*ENTOMYZA CYANOTIS HARTERTI, subsp. nov.

Specimens from Cooktown obtained in June and July present such differences from the typical form, that we think they may be regarded as representing a distinct race. The buff edgings to the inner webs of the primaries are somewhat paler and more extensive (reaching to the shaft) than is the case with a series of eight specimens from N. S. Wales and Southern Queensland, with which we have compared them. The primaries, with the exception of the two outer ones, have their outer webs narrowly edged with greenish sulphur-yellow, a feature we have not noticed in Southern specimens, but which would probably show only in freshly-moulted birds. The median band of black feathers on the crown is also much narrower. The most marked point of difference, however, is the very much smaller size, as the following table shows:—

	Wing. mm.	Tail. mm.
Cooktown (*Olive coll.*) (three females)..	135–139	108–112
New South Wales and Moreton Bay (eight specimens) (Liverp. Mus.)	150–161	135–156

"Iris white; feet slate; bill black; skin above the eye indigo, below pale blue" (*Olive*).

E. albipennis Gould, from Port Essington, whence we have a typical specimen in the Liverpool Museum, is a very distinct species, readily recognizable by the *white* coloration of the inner webs of the primaries extending quite to the shaft, which coloration is visible on the external aspect of the wing, and by having the proximal half of the outer webs of the primaries pale yellowish green, sharply defined from the blackish terminal portion. In life the coloration of the naked ocular region would probably be different, as in the skin of *E. albipennis* before us it is dull greyish, not black as in *E. cyanotis*.

61. Lamprocorax metallica (Temm.).

Calornis metallica Sharpe, Cat. Birds Brit. Mus. xiii. p. 138; Le Souëf, Ibis, 1898, p. 53.

This bird was very common at all the localities visited by Mr. Olive, who obtained a large series of adult birds, together with the nests and numerous clutches of eggs. The latter have recently been well described by Mr. Le Souëf (*loc. cit.*). The greatest number of eggs in any of the clutches we have received is four.

62. Artamus leucorhynchus leucopygialis Gould.

Artamus leucogaster Sharpe, t. c. p. 3.

Artamus leucorhynchus subsp. *minor* Hartert, Nov. Zool. vi. p. 424 (1899).

Australian specimens have the bill certainly smaller than the form found in Java and the Philippines, though in five examples before us from Cooktown and Cairns we find the culmen to be 17·5–19 mm., and not 15–16 mm. as given by Mr. Hartert. Possibly we measure in a different way. In any case Gould's name for the form is the one that must be used.

63. Pitta strepitans simillima Gould; Sclater, Cat. Birds Brit. Mus. xiv. p. 428.

Not very common at Cooktown, but much more abundant at Cairns, where it frequents dense scrub and is very hard to see, though it may be heard pattering over the dead leaves. "Iris brown; feet flesh-colour; bill black" (*Olive*).

The only constant character by which this subspecies can be distinguished from the typical form is its smaller size. The white speculum on the wing is very variable; normally it extends from the inner web of the fourth to the outer web of the sixth primary, and this is the case in five out of the eight adult specimens before us. In one it extends to the outer web of the seventh, in another it commences on the inner web of the third, whilst in yet another the speculum is almost absent, being but faintly indicated on the outer web of the fifth primary.

64. Caprimulgus macrurus Horsf.; Hartert, Cat. Birds Brit. Mus. xvi. p. 537.

"Iris brown; feet pale pink; bill blackish brown" (*Olive*).

65. †Eurostopus albigularis (Vig. & Horsf.); Hartert, t. c. p. 607.

A single male from Cairns, regarding which Mr. Olive notes: "This specimen was procured in forest-country at the foot of Mt. Sapphiri. The species seems to be scarce, as I have only seen this specimen, which it took me over a week to secure. Iris brown; feet reddish brown; bill brown. Insects in stomach."

66. *Eurostopus argus Hartert; id. t. c. p. 608.

"Several specimens from Cooktown and Mt. Sapphiri. Always in pairs. Sleep on the ground during the day, and are very hard to find, as it is impossible to see them until they are flushed, as their colour assimilates so closely to dead leaves. They make no nest, but lay their single egg on the ground, generally on a stony ridge. Iris, feet, and bill brown" (*Olive*).

67. Podargus papuensis Q. & G.; Hartert, t. c. p. 630.

A solitary specimen from Cairns and a large series from Cooktown in very varying plumage, some of them apparently in the stage of plumage described by Gould as *C. plumiferus*. Some of them are labelled as having the iris "red," others yellow, and the more rufous birds are sexed female.

68. *Podargus phalænoides Gould; Hartert, t. c. p. 634.

"Iris yellow; feet purplish brown; bill brown" (*Olive*).

69. *Ægotheles novæ-hollandiæ (Lath.); Hartert, t. c. p. 651.

Three specimens, with rufous auriculars and the centre of the abdomen pure white, are evidently referable to *Æ. leucogaster* Gould, if that species is valid, which these specimens seem to show may be the case. "Iris brown; feet pale pink; bill black" (*Olive*).

70. *Merops ornatus Lath.; Sharpe, Cat. Birds Brit. Mus. xvii. p. 74 (1892).

Two adult males in freshly moulted plumage.

"Plentiful; nesting in flat sandy country in holes about four feet long, with the nesting-chamber about 18 inches from the surface. Iris red; feet and bill black" (*Olive*).

On the Stewart River, where the Overland Telegraph wire from Cape York crosses the stream, I (H. C. R.) found this species to be especially abundant in August 1896, perching on the wire in groups of five or six.

71. †Eurystomus pacificus (Lath.).

Eurystomus australis Sharpe, t. c. p. 36.

Inaccurate though Latham's description undoubtedly is, we think that after all his name should be employed. We have examined large numbers of Latham's types, to whose authenticity no possible doubt attaches, and it is extraordinary to find how difficult it is to reconcile the descriptions of many of them with the actual specimens from which these descriptions were taken.

"Found in forest country. Plentiful but rather shy and difficult to procure, as it always perches in lofty trees; occurs, as a rule, in flocks, but sometimes in pairs or singly. Iris brown; bill and feet red" (*Olive*).

72. Dacelo gigas (Bodd.); Sharpe, t. c. p. 204.

Dacelo gigas, subsp. *minor* Robinson, Bull. Liverp. Mus. ii. p. 116 (1900).

At one time, with only young specimens before us, we were inclined to consider that the North Queensland form might perhaps be subspecifically distinguished by the absence of blue on the rump and wings, and by its smaller size. We find, however, that this is not the case, as the receipt of a small series from Cairns shows that adult birds are, if anything, brighter in coloration than more southern specimens, though in size they are on the average slightly smaller.

"These birds feed on reptiles and are found in open forest-country, generally solitary, though the mate is never far away. The nest is made in the small 'termitaria' which are found on dead trees. Iris brown; feet yellowish white; bill black above, yellowish white beneath" (*Olive*).

73. *Dacelo leachi Vig. & Horsf.; Sharpe, t. c. p. 206.

Adults and immature birds from Cooktown.

"Habits similar to the above, but the nest is made in hollow trees, the usual number of eggs being two or three (*Olive*).

74. Halcyon sanctus (Vig. & Horsf.); Sharpe, t. c. p. 267.

75. Halcyon macleayi Jard. & Selby; Sharpe, t. c. p. 254.

"Very plentiful; sometimes found in parties of five or six, but more usually in pairs. Nests in termites' mounds, and lays five eggs. Iris brown; feet black; bill black above, yellowish beneath" (*Olive*).

76. †Halcyon sordidus Gould; Sharpe, t. c. p. 278.

A single specimen from the mangroves at the mouth of the Russell River seems rather brightly coloured on the wings and tail. "Iris brown; feet black; bill black above, yellowish white beneath" (*Olive*).

77. †Alcyone pusilla (Temm.); Sharpe, t. c. p. 171.

Two males of this somewhat rare little Kingfisher from Mt. Sapphiri.

"Very plentiful, but exceedingly shy and difficult to obtain. They generally occur in pairs, sitting on boughs overhanging creeks in thick scrub. Iris brown; feet and bill black. Food, fish" (*Olive*).

78. †Alcyone azurea pulchra Gould; Sharpe, t. c. p. 169; Hartert, Nov. Zool. vi. p. 427 (1899).

A small series of adult and immature birds from Mounts Sapphiri and Bellenden Ker seems to belong to this subspecies, although the blue and lilac on the flanks is not so pronounced as in the birds from Port Essington. The dimensions are slightly larger than those given by Mr. Hartert (*loc. cit.*) for specimens from Cape York, the wing in the adult birds being 76–77 mm.

"Habits similar to those of the preceding species; the nest is made in holes in the banks of creeks, and five eggs are the usual complement. Iris brown; feet red; bill black with whitish tip" (*Olive*).

79. †Tanysiptera sylvia Gould; Sharpe, t. c. p. 300; Le Souëf, Ibis, 1898, p. 55.

Two adult females from Bellenden Ker.

The nest of this bird was discovered on December 5th. It was a chamber about 3 inches in diameter at the end of a tunnel 18 inches long, excavated in a termites' mound, and contained two eggs, which were unfortunately somewhat damaged in blowing. They are subspherical, of a beautiful translucent pearly white, and measure: A 26·5 × 24 mm., B 28 × 24 mm.

80. *Cuculus pallidus (Lath.); Shelley, Cat. Birds Brit. Mus. xix. p. 261.

"Iris brown; feet and bill black. Food, insects" (*Olive*).

81. †Cuculus intermedius Vahl; Shelley, t. c. p. 252.

Evidently not uncommon in the neighbourhood of Bellenden Ker, as eight specimens were collected during December. "Iris brown; feet yellow; bill black; skin round the eyes yellow" (*Olive*).

82. *Cacomantis flabelliformis (Lath.); Shelley, t. c. p. 266.

Several adult birds.

"Found singly at Cooktown during the winter months. Iris and feet brown; bill black; orbital skin yellow" (*Olive*).

83. †Cacomantis variolosus (Horsf.); Shelley, t. c. p. 272.

One specimen which is nearly adult and a very immature bird appear to belong to this species; the latter may, however, be an immature *Cacomantis flabelliformis*.

84. †Chalcococcyx basalis (Horsf.); Shelley, t. c. p. 294.

Three specimens from Bellenden Ker.

One is very young and has the under surface almost uniform white, with only faint indications of bars on the throat; under wing-coverts uniform white, unbarred; tail with much less rufous than in the adult. "Iris brown; feet slatish green; bill blackish. Food, insects" (*Olive*).

85. *CHALCOCOCCYX PLAGOSUS (Lath.); Shelley, t. c. p. 297.

"Rather scarce at Cooktown, where it occurs only during the four winter months. Iris yellow in the male, brown or whitish brown in the female; feet brown or black; bill black" (*Olive*).

86. †EUDYNAMIS CYANOCEPHALA (Lath.); Shelley, t. c. p. 324.

Three males from Bellenden Ker and Sapphiri, one of which still shows remnants of the immature plumage. "Iris red; feet slate; bill bluish white. Food, fruit" (*Olive*).

87. CENTROPUS PHASIANUS (Lath.); Shelley, t. c. p. 340.

"Plentiful in forest country, feeding on the ground. When disturbed they fly to the nearest tree and ascend it by a series of short flights from branch to branch. They nest in tussocks of grass and lay three eggs." Mr. Olive has sent four specimens from Cooktown, shot in June and July, of which one is in the black breeding-plumage with a few remnants of the lighter plumage on the lower surface; another, possibly a young bird, is moulting into the *non-breeding-plumage,* whilst two others are just acquiring the breeding-plumage. All these birds have the iris *white*; feet slate; bill black or brown.

Eight specimens from Mount Sapphiri, collected in October, have almost completed their moult into the breeding-plumage and have the iris *red,* feet and bill slate. In this species *females* are distinctly larger than males, the difference in the length of the tail being very marked.

88. †SCYTHROPS NOVÆ-HOLLANDIÆ (Lath.); Shelley, t. c. p. 330.

A small series of adult and immature birds from Mount Sapphiri; the latter have the abdomen and under wing-coverts faintly barred with greyish black.

"Plentiful, feeding in flocks on very high trees. Iris red; feet slate; bill slatish with a white tip; orbital skin red" (*Olive*).

89. TRICHOGLOSSUS NOVÆ-HOLLANDIÆ SEPTENTRIONALIS Robinson, Bull. Liverp. Mus. ii. p. 115 (1900).

Trichoglossus novæ-hollandiæ (partim) Salvad. Cat. Birds Brit. Mus. xx. p. 58 (1891); Mivart, Mon. Loriidæ, p. 109, pl. xxxv. (1898); Hartert, Nov. Zool. vi. p. 428 (1899).

The northern representative of this common Australian Lory can readily be distinguished subspecifically by its smaller size and by the brighter and purer blue of the head and abdominal patch.

Some of the numerous specimens received from Mounts Sapphiri and Bellenden Ker agree very fairly with the original specimens from Cooktown, whilst others approach the typical form more nearly so far as coloration is concerned, but all are distinctly smaller in dimensions. One specimen from Cooktown is remarkable for having the tail composed of fourteen feathers, and not the normal number of twelve. "Iris red; feet black; bill red" (*Olive*).

90. PSITTEUTELES CHLOROLEPIDOTUS NEGLECTUS Rchnw. Ornith. Monatsb. vi. pp. 4, 5 (1898).

Several specimens from Cooktown and Cairns agree pretty well with Herr Reichenow's diagnosis, though some of the Cairns specimens are rather larger, approaching the typical form. *P. neglectus* cannot, however, be regarded as more than a subspecies, as there is no tangible difference except in size between northern and southern specimens. "Iris red; feet greenish yellow; bill red. Food, seeds and honey" (*Olive*).

91. CACATUA GALERITA TRITON (Temm.); Salvad. t. c. p. 118.

Two specimens from Cooktown and five from Cairns.

Regarding the specimens from Cairns, Mr. Olive writes:—

"Plentiful but very shy; generally in flocks, but sometimes in pairs and singly. I have counted nearly 200 roosting in the trees close together; in the morning they separate and go out in small flocks to their feeding-grounds and return to their roosting-place after sunset. They nip off all the leaves and smaller twigs from the trees on which they roost. Iris brown; feet and bill black; bare skin on the face *bluish white*" (*Olive*).

At least five forms of the larger Sulphur-crested Cockatoo have been described at different times, viz.:—

C. galerita. Australia.
C. licmetorhyncha. Tasmania.
C. triton. Central Dutch New Guinea.
C. macrolopha. Western Papuan Islands and Aru Islands.
C. trobriandi. Louisiades and D'Entrecasteaux group.

If all these forms, which are mainly founded on differences in dimensions, and only two of which, *C. galerita* and *C. triton,* are generally recognized, are to be maintained, it becomes a question to which of them our specimens with the wing 311–330 mm. are to be referred. The colour of the skin round the eye, noted by Mr. Olive as *bluish white,* seems to indicate an approach to the race occurring at *Port Moresby, C. triton* auct., to which species a female collected by Dr. Coppinger at Hammond Island, Torres Straits, has been referred by Salvadori (*loc. cit.*). In addition, the yellow tinge on the ear-coverts is less marked than in specimens from more southern parts of Australia.

There is no doubt that if all the forms cited were inhabitants of one continental area, it would be considered by many unnecessary to distinguish specifically even such markedly different forms as *C. trobriandi* and *C. galerita.*

If we compare specimens from Northern New Guinea with others from Tasmania or New South Wales, the difference in dimensions is sufficiently striking, whilst the bare parts are also differently coloured. According to Salvadori, however (Orn. Pap. i. p. 95), specimens fully equal in size to the larger examples from Australia do occur in New Guinea, while, on the other hand, specimens from Northern Australia are undoubtedly smaller than many of those from New Guinea.

Locality.	Wing. mm.	Culmen. mm.
Port Moresby (*C. triton*) (*Liverp. Mus.*)	324	47
Salwatti (*C. macrolopha*) „	289	38
Port Essington, ♂ „	313	38
"South Australia" (probably Northern Territory) (*Liverp. Mus.*)	318	42
Cape York, ♀ (*Liverp. Mus.*)	309	42
Cooktown, ♂ (*Olive Coll.*)	327	40·5
„ ♂ „	330	40
Mt. Sapphiri, Cairns, ♂ (*Olive Coll.*)	315	39
„ „ ♂ „	315	42·5
„ „ ♂ „	311	38
Mt. Bellenden Ker, Cairns, ♂ (*Olive Coll.*)	322	40
New South Wales (*C. galerita*) (*Liverp. Mus.*)	370	52
Launceston, Tasmania	352	52
„ „ (*C. licmetorhyncha*)	348	53

This table shows that the Northern Australian specimens come near those from New Guinea in size at least; we have accordingly recorded them as *C. triton*, regarding all these forms merely as belonging to one very variable species, which may or may not be divided into subspecies according to individual opinion.

92. †Aprosmictus cyanopygius (Vieill.); Salvad. t. c. p. 486.

Mr. Olive has forwarded a very large series of this species from the neighbourhood of Cairns.

The dimensions are slightly less, and the scarlet of the head and under surface much deeper, than in specimens from Moreton Bay and Port Stephens.

"Plentiful, but very shy, occurring in large flocks and occasionally in pairs; not always easy to procure, as the line of flight is usually very high. *Male*: iris yellow; feet black; bill red, with the tip of the upper mandible and the whole of the lower black. *Female*: iris yellow; feet and bill black" (*Olive*).

The eggs of this bird were procured on October 26th; the nest was situated in the hollow of a tree, with the entrance about twenty feet above the ground. The eggs were five in number and were much incubated, so much so that two of them hatched out before they were blown. They are white in colour, with a slight gloss, subspherical in form, and measure: A 34 × 28·5, B 34·5 × 29, C 35 × 28 mm.

93. *PTISTES ERYTHROPTERUS (Gm.); Salvad. t. c. p. 481.

"Four specimens from Cooktown.

"Found in forest-country, generally in parties of two or three, but occasionally in flocks. They nest in hollow trees, generally about ten to twelve feet from the entrance, and lay two or three eggs" (*Olive*).

P. coccineopterus Gould, of which there is an authentic specimen from Port Essington in the Derby Collection, is almost inseparable from the true *P. erythropterus.* It is undoubtedly slightly smaller than specimens from Moreton Bay, but the difference is inconsiderable, and does not appear to be constant, as Salvadori (*loc. cit.*) has observed. We cannot recognize the differences in coloration mentioned by Mr. Le Souëf (Ibis, 1899, p. 360).

94. *†PLATYCERCUS AMATHUSIA Bp.; Salvad. t. c. p. 548.

"A ground bird, living on seeds; generally found in parties of two or three, but by no means plentiful. Iris brown; feet slate-grey; bill white" (*Olive*).

This species is one of the rarer of the Australian Psittaci, and though widely distributed over the northern portion of the continent seems to be nowhere plentiful. Like many specimens of its near ally, *P. pallidiceps,* the present species is frequently irregularly flecked with red about the head. Two out of three skins before us are so marked.

95. *†PLATYCERCUS ELEGANS NIGRESCENS Rams.; Salvad. t. c. p. 543, note.

We have five specimens of this race from near the summit of Bellenden Ker; they agree well with Mr. Ramsay's diagnosis, except that he describes it, possibly by a *lapsus calami,* as having "the feathers on the *head*, hind-neck, and back almost all black." In our specimens the head is dark red, uniform in colour with the lower surface.

"Very plentiful but shy. Found in flocks and pairs, but very seldom singly; if the black-and-white Magpie [*Strepera graculina*?] sees them settle on a tree, it flies at them and drives them away. Iris brown; feet black; upper mandible whitish, lower slate-colour" (*Olive*).

96. *PTILINOPUS REGINA (Swains.).

Ptilinopus swainsoni Salvad. Cat. Birds Brit. Mus. xxi. p. 95 (1893).

A small series from Cooktown.

"Plentiful only during the winter months. Iris yellow; feet slate; bill green" (*Olive*).

97. PTILINOPUS SUPERBUS (Temm.); Salvad. t. c. p. 112.

Specimens have been received from each locality visited. "Iris yellow; feet red; bill green" (*Olive*).

Two nests, found at Bellenden Ker on December 29th, were situated in dense scrub at a height of about six feet above the ground, and were merely a slight platform of sticks, resembling the nest of *Megaloprepia assimilis*, but smaller. Each nest contained one egg, which is like that of most Pigeons, being pure white and of a regular oval. The shell is very smooth and slightly lustrous. They measure: (1) 30·5 × 21, (2) 30 × 31 mm.

98. MEGALOPREPIA ASSIMILIS Gould; Salvad. t. c. p. 168.

One male from Cooktown, where the species is not of regular occurrence, and a large series from Cairns, which are slightly larger, showing a tendency to intergrade with *M. magnifica*. Regarding the specimens from Cairns, Mr. Olive says:—"Very abundant here, and usually found in pairs or singly, except when feeding, when they are gregarious. Iris red; feet green; bill red at the base, with a yellow tip; orbital skin green." A nest and eggs have also been forwarded by Mr. Olive. The nest was found in thick scrub on October 14th. It was built on the limb of a tree about ten feet from the ground, and contained one freshly laid egg. It is a very frail structure, nearly flat, and composed of a few small sticks, loosely interwoven with the coarse tendrils of some creeping plant. The egg, which is dull white, of the usual Pigeon type, is in form a slightly swollen oval, and measures 34 × 27 mm., whilst another collected on October 26th is 36 × 26 mm., being slightly more elongate in shape.

99. Myristicivora spilorrhoa (G. R. Gr.); Salvad. t. c. p. 231.

"Abundant at Cooktown during the winter months; breeding in enormous multitudes on the outlying islands of the Barrier Reef, some eight or nine miles from the mainland. In the early morning they wend their way to their feeding-grounds in the scrubs, sometimes flying as great a distance as 40 miles, and return to roost on the islands at night. They feed principally on a species of nutmeg (*Myristica insipida*), of which I have found as many as eight or nine fruits in the crop. Iris dark brown; feet bluish slate; bill greenish yellow" (*Olive*).

100. †Columba norfolciensis Lath.

Columba leucomela Salvad. t. c. p. 320.

A single male was shot on Mt. Bellenden Ker, where the species occurs in flocks. Mr. Olive did not meet with it in the low country. "Iris yellowish red; feet red; bill red; the orbital skin also red" (*Olive*).

101. Macropygia phasianella (Temm.); Salvad. t. c. p. 349.

Four specimens from Cooktown and three from Mt. Bellenden Ker.

These specimens seem rather small in dimensions, with the occiput in the *adult male* very much greyer than in specimens from Southern Australia. When a larger series of properly sexed specimens from definite localities is available, it will probably be possible to separate the North Queensland bird (subspecifically at least) from the form inhabiting New South Wales and South Australia.

The *males* sent by Mr. Olive seem certainly to approach *M. cinereiceps* Tristr., from the Louisiades and Southern New Guinea.

102. CHALCOPHAPS CHRYSOCHLORA (Wagl.); Salvad. t. c. p. 511.

Three specimens from Cooktown and many from Cairns.

Of Cooktown specimens Mr. Olive says that the species is common there only during the winter months, when it may be found feeding on the ground in parties of one, two, or three, but never more.

Iris brown; feet and bill red.

The Northern race of this widespread species has been separated as *Ch. longirostris* Gould; the differences in the size of the bill, however, are minute and apparently not very constant, when large series are available for comparison. The ashy bars on the back and rump seem somewhat more defined in birds from North Australia, as is also the case in specimens from Timor and the New Hebrides.

103. *SYNŒCUS AUSTRALIS (Lath.); Ogilvie Grant, Cat. Birds Brit. Mus. xxii. p. 247 (1893).

Two pairs of adult birds from Cooktown belong to the smaller and greyer form, *S. cervinus* Gould.

"Iris brown; feet and legs yellow; bill horn-colour" (*Olive*).

104. †EXCALFACTORIA CHINENSIS LINEATA (Scop.); Ogilvie Grant, t. c. p. 253.

A single female from Bellenden Ker.

"Scarce; generally in pairs in thick grass, from which they are only flushed with great difficulty. Iris reddish brown; feet yellow; bill black" (*Olive*).

105. CATHETURUS LATHAMI (J. E. Gray); Ogilvie Grant, t. c. p. 468; Le Souëf, Ibis, 1899, pp. 14, 16.

A fine series of this species in breeding and non-breeding plumage from Cooktown and Cairns.

It is very abundant at Cooktown and, though scarce on Mount Sapphiri, is evidently extremely common on the lower spurs of Mount Bellenden Ker.

Four males from Cooktown, shot in June and the latter part of September, show hardly any trace of the wattle at the back of the neck, which in one specimen from Mount Sapphiri, and in three others from Mount Bellenden Ker, shot in October and November, has expanded to a large semicircular collar some 80 mm. in diameter.

Non-breeding birds have the iris yellow, feet and bill black, head and upper part of neck red, the remainder being yellow.

Breeding birds have the iris brownish white, the feet *yellow*, the bill black, and the colours of the bare parts of the head and neck much brighter.

We have also received a large series of eggs of this bird obtained in the latter part of November and the first half of December, the greatest number found in one mound being thirteen, with three chicks.

The eggs are of a dull white colour, finely granulated in texture; they vary much in size, ranging from 94–104 mm. in length by 60–65 mm. in breadth, the average size being 99 × 63 mm.

106. MEGAPODIUS DUPERREYI Less. & Garn.; Ogilvie Grant, t. c. p. 454; Le Souëf, Ibis, 1899, pp. 14, 16.

A single specimen from Cooktown and several from Cairns, with a large series of eggs from the latter locality.

"Iris brown; feet and legs orange, with black edges to the scutes; bill brown" (*Olive*).

The eggs are in shape a long oval, from 86·5–96 mm. in length and 51–56 mm. in breadth. When fresh they are coated with a delicate soft layer of pinky-brown material, which darkens to coffee-brown with age. It is very deciduous, and can be readily removed by moisture and rubbing.

107. *TURNIX OLIVII Robinson, Bull. B. O. C. vol. x. p. xliii; id. Ibis, 1900, p. 375.

We have as yet received only one female, from Cooktown, of this very distinct Bustard-Quail, which appears to have been hitherto confounded with *T. castanonotus*. It is, however, readily distinguishable by its considerably larger dimensions, and by the absence of white tips to the frontal feathers, and also, as Mr. Ogilvie Grant has kindly pointed out, by the longer and more slender bill.

"Iris yellow; feet yellow; bill brown" (*Olive*), dull greenish olive in skin.

108. †Hypotænidia philippinensis (Linn.); Sharpe, Cat. Birds Brit. Mus. xxiii. p. 39 (1894).

A pair from the swamps round Bellenden Ker.

"*Male.* Iris red; feet light brown; bill brown, reddish at base.

"*Female.* Iris chestnut; feet brown; bill reddish brown" (*Olive*).

109. †Rallina tricolor G. R. Gr.; Sharpe, t. c. p. 79.

Five specimens from Mounts Sapphiri and Bellenden Ker.

"Fairly plentiful, but very shy and crepuscular in their habits. About dusk they are to be seen hopping down from the thick scrub, where they pass the day, to the water, generally in parties of three; and the only way to secure them is to remain hidden on the edge of the creek from about 6 p.m. until it is quite dark. Iris red; feet slaty green or yellowish green; bill green" (*Olive*).

110. †Amaurornis moluccana (Wall.); Sharpe, t. c. p. 153.

Of this rare Gallinule Mr. Olive has sent us four specimens from Bellenden Ker, but has omitted to give us any particulars concerning them, having apparently considered them identical with the preceding species.

"Iris reddish brown; feet yellow; bill green; the frontal shield orange" (*Olive*).

111. †Porphyrio melanonotus Temm.; Sharpe, t. c. p. 205.

Two specimens only from Bellenden Ker.

"Scarce and shy, generally singly, and always near water. Iris red; feet red, with the joints slate-colour; bill red" (*Olive*).

112. †Heteractitis brevipes (Vieill.); Sharpe, Cat. Birds Brit. Mus. xxiv. p. 449.

Four specimens in winter plumage from the neighbourhood of Cairns.

"Fairly plentiful along the creeks. Iris brown; feet yellow; bill light slate" (*Olive*).

113. †Heteropygia acuminata (Horsf.); Sharpe, t. c. p. 566.

One male from Bellenden Ker.

"Iris brown; feet yellow; bill black" (*Olive*).

114. †Tringoides hypoleucus (Linn.); Sharpe, t. c. p. 456.

A single specimen from the mouth of the Mulgrave River, where the species was found to be very abundant on the shore. "Iris brown; feet yellowish white; bill black" (*Olive*).

115. †Ibis molucca Cuv.; Sharpe, Cat. Birds Brit. Mus. xxvi. p. 9.

A fine male in full breeding-plumage was secured on Nov. 29th. It has the bare skin under the wings bright brick-red, even in skin.

"Found near creeks and where the grass has been recently burnt, but not plentiful. Iris brown; feet red; bill black; bare parts black, with pink spots on the crown and back of head" (*Olive*).

116. *Herodias timoriensis (Less.); Sharpe, t. c. p. 98.

A single male in winter plumage was obtained in July at Cooktown.

"Very shy and scarce; found sparingly along creeks and lagoons; when flying their neck is carried doubled back on their shoulders. Iris yellow; feet and tarsi black; bill yellow" (*Olive*).

I (H. C. R.) found this and the succeeding species, and also what was probably *Mesophoyx plumifera*, fairly abundant in the flat country at the head of Princess Charlotte Bay in August 1896; they were, however, exceedingly wary, and I found it impossible to obtain specimens with a shot-gun.

117. †Notophoyx novæ-hollandiæ (Lath.); Sharpe, t. c. p. 109.

Adults and an immature bird from Mounts Sapphiri and Bellenden Ker.

"Fairly plentiful. Iris, feet, and bare parts yellow; bill slate-colour" (*Olive*).

118. †Garzetta nigripes (Temm.); Sharpe, t. c. p. 122.

A single male in breeding-plumage having the ornamental plumes on the breast and the dorsal train, though the nape-plumes are not apparent.

"Scarce; the specimen sent was shot on a freshwater-creek. Iris yellow; feet black; bill black, the lower mandible partially yellow" (*Olive*).

119. Nycticorax caledonicus (Gm.); Sharpe, t. c. p. 158.

Specimens are sent from each locality visited; they are all adults, and most of them show the nuchal plumes indicative of breeding birds.

"Iris yellow, orbital skin greenish yellow; feet yellowish green; upper portion and tip of each mandible black, the lower portion yellowish" (*Olive*).

120. †Phalacrocorax melanoleucus (Vieill.); Ogilvie Grant, Cat. Birds B. M. xxxvi. p. 398.

A small series in freshly-acquired breeding-plumage from the neighbourhood of Mt. Bellenden Ker.

"Iris brown; feet black; bill and bare parts yellow" (*Olive*).

121. †Anseranas semipalmata (Vieill.); Salvad. Cat. Birds Brit. Mus. xxvii. p. 44.

Three specimens in very worn plumage and with the under surface much stained with rust are sent from Bellenden Ker.

122. *Nettopus pulchellus Gould; Salvad. t. c. p. 67.

Apparently of only sporadic occurrence in the neighbourhood of Cooktown. Mr. Olive obtained four specimens out of one flock, which he says was the first seen in the district for years. I (H. C. R.) found it abundant in the neighbourhood of the Kennedy and Hann Rivers, considerably to the north of Cooktown, in August 1896, when it afforded a welcome addition to our fare. Ramsay (P. Z. S. 1877, p. 346) notes it as exceedingly rare in Eastern Queensland, whence he had seen only three skins—much rarer than *N. albipennis*, which, curiously enough, Mr. Olive has not obtained.

"Iris brown; feet blackish slate; bill brown. Food, seeds and weeds." (*Olive*).

Count Salvadori, in his Key to the subfamilies of the *Anatidæ*, makes *Nettopus* fall into the section with the hind toe *not* lobed. In this species and in *N. coromandelianus* (Blanford, Faun. Brit. Ind., Aves, iv. p. 433) the hind toe is distinctly lobed; more so certainly than in some species of *Dendrocygna*.

123. *DENDROCYGNA ARCUATA (Cuv.); Salvad. t. c. p. 153.

A single specimen only from Cooktown.

"Plentiful when there is dry weather inland; coming here only at night and returning inland at daylight, sometimes in pairs, but more generally in flocks. This one was in the river by itself, having evidently got separated from its mates. Very shy and quick on the wing, uttering a whistling sound when flying. Iris brown; feet and bill black. Food, seeds and weeds." (*Olive*).

124. †ANAS SUPERCILIOSA Gm.; Salvad. t. c. p. 206.

Numerous specimens.

"Rather scarce, occurring in flocks of about 20, feeding in the swamps at the foot of the mountains. Iris brown; feet yellowish; bill black or greenish slate." (*Olive*).

125. †CASUARIUS AUSTRALIS Wall; Salvad. t. c. p. 594.

Abundant in the scrubs round Mount Sapphiri.

Mr. Olive tells us that he secured an adult which was remarkable for having a layer of fat half an inch thick all over the body. The skin has not yet been received.

In conclusion we must express our thanks to Mr. Peter Cowell, Chief Librarian to the City of Liverpool, and to the Committee of the Free Public Museum, Liverpool; also to the Hon. Walter Rothschild and Mr. Hartert for the use of material belonging to the Tring Museum.

XLI.—*On the Pterylosis of the Embryos and Nestlings of* Centropus sinensis. By R. Shelford, B.A. (Curator of the Sarawak Museum).

(Plate XIII.)

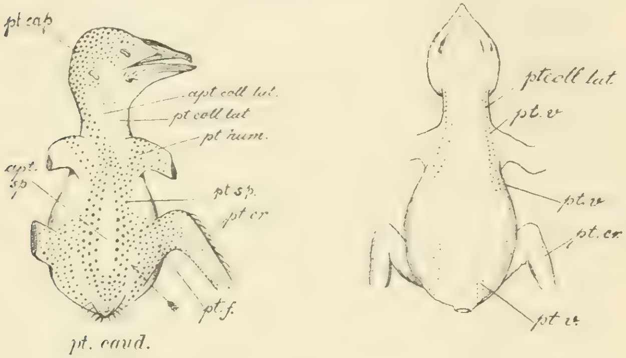
The most remarkable feature in the young of *Centropus sinensis* is the clothing of long, white, thread-like structures, most strongly developed and most densely disposed on the dorsal surface of the head and body (Plate XIII.). Dissection and microscopical examination show these threads to be enormous prolongations of the horny sheaths which envelop the developing feathers, a narrow lumen extends from the base to the tip of each, whilst the base of each lumen, again, is occupied by a feather-papilla, situated below the skin. In order to avoid unnecessary circumlocution and repetition, I shall term these thread-like structures trichoptiles. The skin in young nestlings and ripe embryos is black, except between the rami of the mandibles and on the belly; the white trichoptiles stand out in striking contrast to this dark background, and give the young bird a sufficiently remarkable appearance.

The horny sheaths of *all* the definitive feathers are not produced to form trichoptiles; whilst, on the other hand, certain areas occupied in the young nestling and embryo by trichoptiles are in later stages devoid of feathers. To describe the changes in shape and extent of the pterylæ and apteria during the passage from the trichoptile-clad embryo to the adult is the purpose of the present paper.

Thanks to the generosity of Mr. Charles Hose, who has furnished me with several gradational examples, the material at my disposal can be divided, roughly speaking, into three stages, though the divisions are not very well marked.

A nearly ripe embryo with a total length of 92 mm. constitutes Stage 1 (Plate XIII. A); a young nestling with a total length of 112 mm. may be regarded as typical of Stage 2 (Plate XIII. B, and figs. 1 & 2, p. 655); and nestlings ranging from 125 mm. to 145 mm. fall into the third division, Stage 3 (figs. 4 & 5, p. 661). I have also seen a very young embryo of this species, in which prominent feather-papillæ occurred in three definite regions :—A double tract from each side of the head immediately above the eye to the pygidium, and in the areas subsequently occupied by the pt. humeralis and pt. femoralis respectively. The foot of this embryo had not yet become zygodactylous.

Figs. 1, 2.



Nestling of *Centropus sinensis*, Stage 2.

Fig. 1.—Dorsal aspect, showing the form of the pterylæ and apteria. Compare the form of the pteryla spinalis with that of Stage 3, fig. 4.

Fig. 2.—Ventral aspect, to show the incomplete pteryla ventralis in the embryonic stage.

Explanation of the lettering.

apt. coll. lat. = apterion colli laterale.
apt. sp. = „ spinale.
pt. cap. = pteryla capitis.
pt. coll. lat. = „ colli lateralis.
pt. hum. = „ humeralis.
pt. sp. = „ spinalis.
pt. cr. = „ cruralis.
pt. f. = „ femoralis.
pt. v. = „ ventralis.
→ = apterion between pt. femoralis and pteryla spinalis. See p. 657.

Stage 1.—The trichoptiles are now at the highest point of their development. The longest, those on the head and back, measure 30 mm., or about one-third of the total length of the embryo; being all directed backwards they constitute a regular flowing mane (Plate XIII. A), the exact boundaries of which are not easy to define. None of the actual definitive feathers have yet made their appearance, so that the following description applies strictly to the distribution of the trichoptiles.

Pt. capitis (fig. 1*, p. 655, *pt. cap.*).—This is very well developed on the crown and back of the head, but is sparse on the sides; the skin below the ear, between the mandibular rami and between the eye and nostril is naked, a few delicate threads are to be seen surrounding the upper and posterior borders of the ear-opening and on the gonys of the mandible. The eyelashes have not yet made their appearance.

Pt. spinalis (fig. 1, *pt. sp.*) is confluent with the pt. capitis; at first it is single, but at about the level of the attachment of the humerus it bifurcates, the two branches again reunite in the lower lumbar region and run on to the pygidium, stopping short just in front of the oil-gland papilla. The apterium between these two spinal branches is very narrow, and might easily be overlooked had one no later stages at hand for comparison.

Pt. humeralis (fig. 1, *pt. hum.*) arises from the pt. spinalis just below the point where the bifurcation begins, and runs up to the point of the shoulder to fuse with the trichoptiles on the patagial membrane; its connection with the pt. ventralis is not yet established, nor does the ill-developed parapteron join it.

Pt. femoralis (fig. 1, *pt.f.*) is a triangular tract, the long trichoptiles converging from the back over the whole of the outside of the thigh to a point at the knee; anteriorly the base of this triangle is confluent with the pt. spinalis for a short distance, but it soon diverges and runs down as far as the anterior angle of the pygidium, leaving between itself and the pt. spinalis an elongate narrow apterium (see arrow in fig. 1 p. 655). At the knee the pt. femoralis runs into the—

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* The figure representing Stage 2 is introduced here for expediency, since the difference between it and Stage 1 is almost imperceptible (see p. 658).

Pt. cruralis (fig. 2, *pt. cr.*), which is divisible into two portions, a narrow pre-axial and a broader post-axial, which again are confluent with each other in the lower third of the crus on its outer aspect.

Pt. colli lateralis (fig. 2, *pt. coll. lat.*) is at present well defined, though not recognizable in the adult or even in Stage 3; it branches off from the pt. spinalis at the junction of the head and neck, and runs obliquely on to the upper part of the breast, where it becomes confluent with the pt. ventralis. After its origin it is separated from the pt. spinalis by the apt. colli laterale, which runs down as far as the pt. humeralis (it is found also in the adult), and from its fellow of the opposite side by the naked skin of the throat. The trichoptiles of this and the following tract are very small.

Pt. ventralis (fig. 2, p. 655, *pt. v.*).—This is, as yet, merely rudimentary, and the rudiments are curiously disposed. As is well known, the pt. ventralis in the genus *Centropus*, after bifurcating, redivides again on each side into an inner and outer branch. In the embryo now under discussion, the posterior end only of the inner branch is seen running on each side from the lower part of the stomach to the anus, and the upper part of the outer branch extends from its junction with the pt. colli lateralis to the level of the knee-joint only.

The oil-gland is not tufted, and there is no pt. ani.

Pt. caudæ (fig. 1, *pt. caud.*).—The ten rectrices and their coverts are represented by short trichoptiles.

Pt. alaris.—Owing to the small size of the fore-limb and the disproportionately long trichoptiles, it is almost impossible to make out their relative positions (*cf.* description of this tract in a nestling of Stage 2).

With the exception of the pterylosis, there is not much in the external features of this embryo to call for special notice. The egg-tooth is small but prominent; the nostrils are slit-like and open downwards; the foot is now zygodactylous, but the long spur-like claw of the hallux is not yet developed, the claws of all the toes being approximately equal. The papilla of the oil-gland is markedly elongate.

Stage 2 (fig. 1, p. 655).—There are no very striking differences between the young nestling of this stage and the embryo just described, save in the matter of size. None of the actual definitive feathers have even yet appeared, but though the longest trichoptiles have increased in length from 30 mm. to 40 mm., there is no increase in their numbers, with the result that the body of the nestling appears less densely clothed than formerly. Furthermore, owing to the rubbing of the nestling against the sides of the nest, its fellows and other external objects, the trichoptiles stand out at all sorts of angles to the body, giving it a very dishevelled appearance (Plate XIII. B).

To my description of the pterylæ and apteria of the embryo I have little to add. Some minute tips have appeared along the lower border of the eye, but otherwise the pt. capitis is unchanged, and the same may be said of the pt. spinalis, pt. humeralis *, pt. femoralis, and pt. cruralis. The pt. colli lateralis is as distinct as before, whilst the trichoptiles of the pt. ventralis have not increased in extent. There have, however, now appeared on the throat and on each side of the upper part of the breast numerous papillæ arranged in distinct chevrons; protruding from some of these papillæ may be seen the minute tips of the future feathers.

Pt. alaris (fig. 3, p. 659).—As the fore-limb has now considerably increased in size, it is now possible to make out quite clearly the different members of this tract and their relations one to the other; and as the trichoptiles are no more numerous than in Stage 1, this description will apply equally to this stage and to that.

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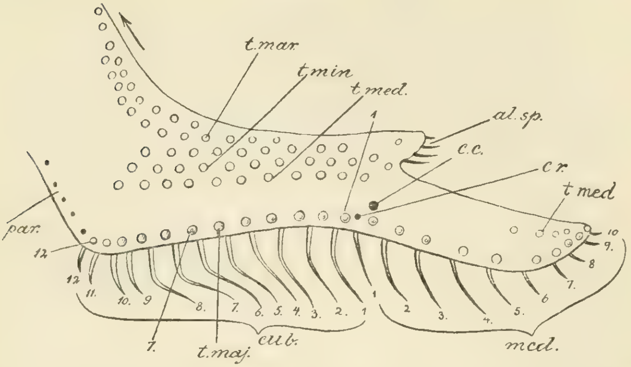
* The gap between the pt. humeralis and pt. femoralis is somewhat greater than in Stage 1, but this is owing to increase in the size of the body.

Fig. 3.



Dorsal aspect of the right wing of the nestling *Centropus sinensis*, Stage 2, to show the positions of the developing coverts and remiges. The wing is eutaxic.

Explanation of the lettering.

t. mar. = tectrices marginales.
t. min. = „ minores.
t. med. = „ mediæ.
t. maj. = „ majores.
al. sp. = ala spuria.
c. c. = carpal covert.
c. r. = „ remex.
par. = parapteron.
cub. = cubitals or secondaries.
mc. d. = metacarpo-digitals or primaries.
1. 2. 3–10 = „ „
1. 2. 3–12 = cubitals 1–12.
7 = 7th major covert.

The following somewhat tabular statement will, when taken in conjunction with the diagram, best represent the arrangement of the tract :—

OUTER ASPECT.

Manus.

Primaries.	10.	The 4th to the 7th are the largest.
Tect. majores.	10.	
Tect. mediæ.	4 only—viz., the 3rd to the 6th of the series. These are not present in Stage 1.	
Tect. minores.	As yet unrepresented.	
Tect. marginales.		

Carpal remex & covert		are present: the former is very much smaller than the latter, which is not readily distinguishable from the tect. majores of the cubitus.
Cubitus.		
Cubitals.	12.	Decreasing in size from before backwards, Nos. 11 and 12 being quite minute.
Tectrices majores.		Proximally continuous with the parapteron.
Tect. mediæ.		11+1 which belongs to the ala spuria: that is, the series commences by just one member in front of the tect. majores, and terminates by just one member short of it, and there is a broad gap between the two series.
Tect. minores.		10+2 which belong to the ala spuria. I can distinguish only one row.
Tect. marginales.		Distally one row, which is short and composed of 9 units only, behind the 3rd unit the second row begins; this is composed of 12 units: behind its 4th unit the third row begins and runs along the anterior border of the patagium to join the pt. humeralis.
Ala spuria ……..		4 trichoptiles, in addition to those already alluded to as constituting the distal members of the t. mediæ and t. minores.
INNER ASPECT.		
Manus ……….		A few minute points, the forerunners of the t. minores inf.
Cubitus ……….		Nothing as yet has made its appearance.

The egg-tooth is still prominent; the eyes are not yet opened. The foot now more nearly approximates in appearance to that of the adult; the second digit is the shortest, the third the longest, and the claw on the hallux is now seen to be a trifle longer and less curved than those on the other toes. The tarso-metatarsus is covered with transverse scutes, those on the dorsal surface being the larger and more distinct; each digit is dorsally covered with one row of transverse scutes, which laterally pass more or less abruptly into the reticulated surface of the planta.

STAGE 3 (Pl. XIII. C, and figs. 4, 5, p. 661).—A nestling with a total length of 145 mm. is taken as typical of this stage; it will at once be seen that the changes in appearance that have occurred are both striking and important. In the first place, the horny sheaths of some of the definitive feathers carrying at their extremities the trichoptiles have broken through to the exterior in certain well-marked areas: in the second place, the pt. ventralis is now almost completely plotted out by feather-sheaths which, however, do not bear trichoptiles at their extremities; and, thirdly, the areas previously occupied by trichoptiles are still so occupied, except where they have been encroached on by the newly appeared feather-sheaths. The reason and significance of these changes will be explained later, meanwhile it is neces-

Figs. 4, 5.

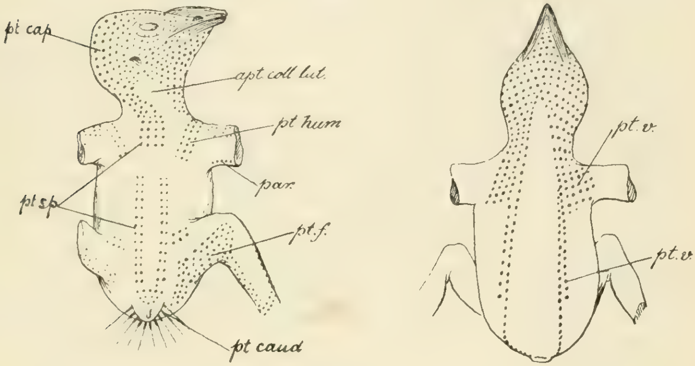


Fig. 4.—Dorsal aspect of Stage 3, showing the changes in the form of the pterylæ. Compare with fig. 1.

Fig. 5.—Ventral aspect of Stage 3. The pteryla ventralis has now completed its growth. Compare with fig. 2, p. 655.

Explanation of the lettering.

apt. coll. lat. = apterion colli laterale.
par. = parapteron.
pt. cap. = pteryla capitis.
pt. caud. = ,, caudalis.
pt. hum. = ,, humeralis.
pt. sp. = ,, spinalis.
pt. f. = ,, femoralis.
pt. v. = ,, ventralis.

sary to describe in some detail the distribution of the actual feather-sheaths: those on the dorsal surface are transversely banded with rufous and black, in a manner suggestive of the colouring of the plumage of the young first-year *Centropus*; those on the ventral surface are whitish yellow, and much less far advanced in their development.

Distribution of the Feather-sheaths.

Pt. capitis (fig. 4, p. 661, *pt. cap.*).—This is now a perfectly continuous tract covering the whole of the head, including the skin between the mandibular rami, between eye and nostril, and between ear-opening and the gonys of the jaw, areas which in Stage 2 were naked save for a very few delicate threads; the sheaths on the back of the head are the longest, the trichoptiles have disappeared almost entirely, being strictly limited to the sheaths on the crown and back of the head, and even these are much abraded; as already shown, they never were present between the mandibular rami; and it would, perhaps, be more reasonable to consider the feathers of this region as belonging to the pt. ventralis. It is to be noted that the upper eyelid bears a row of very short eyelashes (still enclosed in their sheaths), but these are not present on the lower lid, though a row of similar sheaths runs just below it.

Pt. spinalis (fig. 4, *pt. sp.*).—Runs from the pt. capitis as a single tract to the level of the junction of coracoid and scapula; it then abruptly ceases (fig. 4) to appear again at a lower level as a double tract, the two halves of which re-unite at a short distance above the pygidium and run down as far as the oil-gland papilla. The hiatus between the upper and lower portions of this pteryla is filled by trichoptiles so arranged that it is possible to see that the break in this feather-tract began in front of the point of bifurcation of the original trichoptilar tract. All the feather-sheaths bear trichoptiles.

Pt. humeralis (fig. 4, *pt. hum.*).—This is much reduced in size, and has lost its connection with the pt. spinalis (fig. 1), except by means of the still persistent trichoptiles, but originates at a point about midway between the mid-dorsal line and the articulation of the humerus, from here it runs up to and over the point of the shoulder to fuse with the pt. ventralis; it is also continuous with the tectrices marginales but not with the parapteron. The sheaths, which are long and still provided with trichoptiles, are arranged in three rows deep. The distance between this tract and the following is much greater than formerly.

Pt. femoralis (fig. 4, *pt f.*).—A glance at the diagram will show the peculiar nature of the tract at this stage: it is plainly divisible into two portions, a pre-axial and a post-axial; the former is rather indistinct, arising from the pt. spinalis it runs obliquely upwards for a very short distance; the latter is not connected with the spinal tract, its base-line is of considerable length, the lower extremity sweeping down past the pygidium and not far separated from the lower extremity of the inner branch of the pt. ventralis; from this base-line the feather-sheaths rapidly converge and run over the outside of the thigh, mostly on its post-axial half. The greater extent of this tract in younger stages is shown by the trichoptiles.

Pt. cruralis has not altered in shape or size, though its pre-axial portion has lost its connection with the pt. femoralis owing to the reduction of that tract.

Pt. ventralis (fig. 5, p. 661, *pt. v.*).—This is now well developed and dense. Commencing as a continuous tract between the mandibular rami (*cf. ante*), it divides at the junction of the head and neck into two broad main stems; these run down the sides of the neck and chest for some distance, when each stem re-divides into two branches—an outer, short branch *, so short, in fact, that it hardly appears to be a branch at all; and an inner, narrow branch, which runs down almost to the level of the anus, diverging slightly from its fellow on the opposite side. The feathers, at first, are in two rows, but shortly thin out to one row only. From this description it will be seen that this tract has now approximated quite closely to the adult condition, a further extension of the outer branch being all that is needed to make them identical. As a result of the great development of the feathers on the throat and neck, it is now no longer possible to distinguish a pteryla colli lateralis: the *apterium* between that former tract and the pt. spinalis is still apparent, and in fact persists even in the adult, but each half of the tract has now, so to speak, joined hands across the formerly unclothed gap of the throat and become confluent with and indistinguishable from the pt. ventralis. The meagre trichoptiles which in Stages 1 and 2 marked the pt. colli lateralis and (incompletely) the pt. ventralis have now totally disappeared.

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* This branch is said to be very short in *Rhinococcyx*.

Pt. caudæ (fig. 4, p. 661, *pt. caud.*).—The sheaths of the ten rectrices and their coverts are now prominent: all bear trichoptiles.

Pt. alaris.—All the feather-sheaths have now pushed through the skin, and in a few cases some of the feathers have just begun to break through their sheaths; the few trichoptiles that persist are much worn. The arrangement of the tract differs so slightly from that described under Stage 2, that I have but few remarks to add.

Outer aspect.—On the manus there are now five tectrices mediæ and five tectrices minores, and one row of tectrices marginales along the pre-axial edge.

The carpal remex is still much smaller than its covert.

No new feathers have appeared on the cubitus; the gap between the tectrices majores and tectrices mediæ is as apparent as ever; the parapteron is now continuous with the former series. There is a bare triangular space on the patagial membrane.

The ala spuria has four feathers with their coverts, continuous, as before, with the covert series of the cubitus.

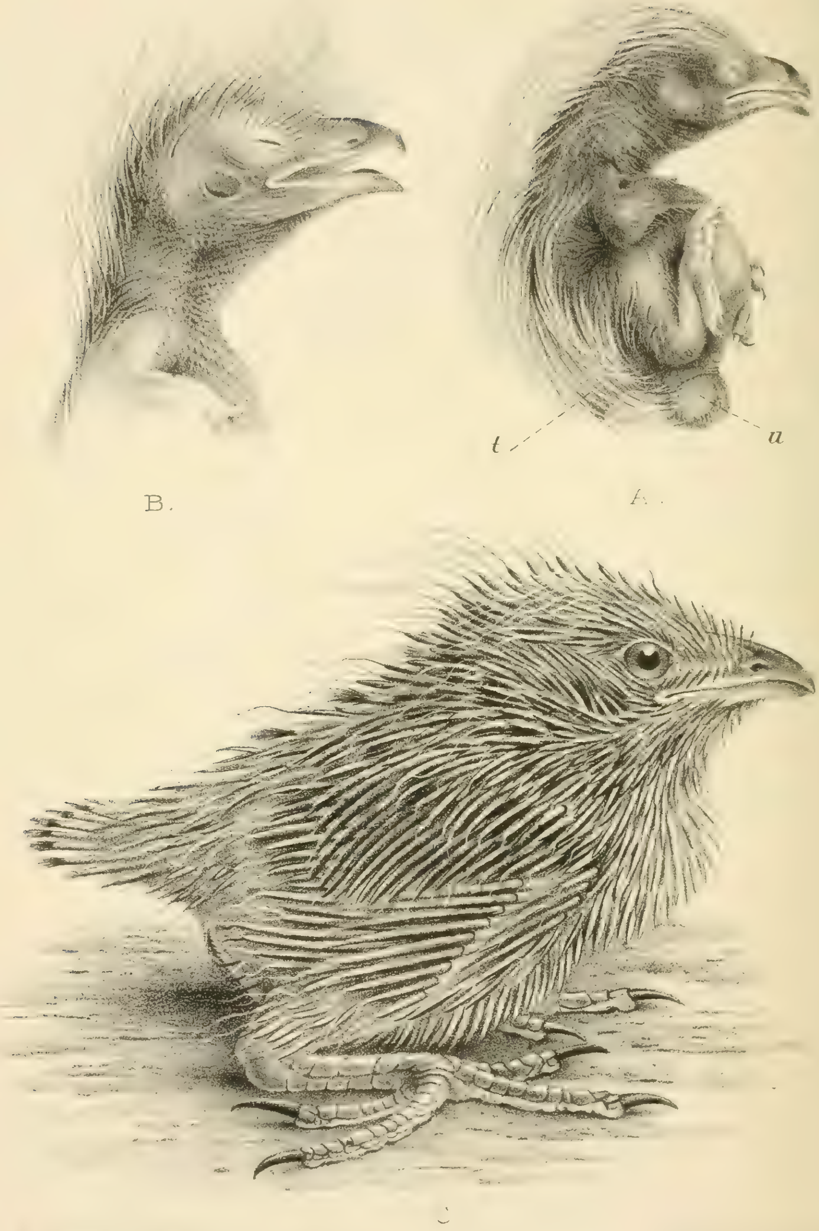
Inner aspect.—There are two rows of tectrices marginales on the manus, one row on the cubitus. There is no hypopteron.

The nestling now appears to be remarkably short-necked; *i. e.*, the neck has not grown in length in proportion to the increase in size of the head and trunk. The egg-tooth has disappeared and the foot is now exactly like that of the adult, the spur-like claw of the hallux being very noticeable.

Comparison with smaller examples of the same stage reveal but few differences: these are:—the greater length of the trichoptiles; the absence of feather-sheaths at the angle of the jaw (as in Stage 2); the weaker development of the pt. ventralis, the point of bifurcation of its two main streams commencing much higher up, and thus affording an illustration of the method by which the pt. colli laterales of Stage 2 become confluent with the pt. ventralis; and, finally, the exact correspondence of the arrangement of the wing-feathers with the arrangement of the trichoptiles in Stage 2, fig. 3, p. 659.

In order completely to understand the changes which take place during the growth of the nestling of an early stage to the nestling of Stage 3, it is necessary again to emphasize the fact that a trichoptile is merely an enormously prolonged feather-sheath, enclosing at its base, beneath the skin, a feather-papilla; as the feather-papilla grows, that part of the trichoptile which ensheathes it must perforce grow too, but the elongated part which, comparatively early in embryonic life, broke through the skin need not, and in fact does not, grow, except in the matter of length, and that only to a small extent, owing to its outwardly pushing base; finally, the actual feather-sheath makes its appearance, pushing before it its trichoptilar appendage, which has now become abraded to a considerable extent. In certain areas these feather-sheaths appear contemporaneously, but in others the feather-papillæ have not advanced so far in development, and the sheaths do not push through to the exterior till some time after the young bird has left the nest; further, these feathers are invariably degenerate semiplumes; notwithstanding their late appearance and degenerate character, the trichoptiles appertaining to them appear at the same time as, and are quite indistinguishable from, the others. The arrangement of the trichoptiles is then prophetic of the adult pterylosis, at least so far as the dorsal surface is concerned, and a combination of the diagrams of the dorsal view of the nestling of Stage 2, and of the ventral view of Stage 3, fig. 5, will represent nearly exactly the adult pterylosis. The almost total absence of trichoptiles from the ventral surface I would explain thus:—The embryo lies in the egg in a strongly curved position, the dorsal side being the convex surface, the ventral side the concave; further, the curve is so circumscribed that almost every part of the ventral surface is in close contact with another part, and it is difficult to see where room could be found for a dense mane of trichoptiles such as is found on the dorsal surface, hence must occur a retardation in the outward growth of these structures along the area later occupied by the pt. ventralis. But when the young bird hatches out, it lies or moves about in the nest on its chest and stomach, subjecting these parts to a considerable amount of friction; and as I have already shown that the dorsal trichoptiles become much worn though subjected to much less friction, it is perhaps not unfair to conclude that ventral trichoptiles will not be developed to any extent if they are liable to be worn away on or soon after their first appearance. Still, this is the merest speculation, since I am unable even to hazard an opinion as to the function of the trichoptiles: the nestling is certainly not rendered inconspicuous by them, and as, moreover, it is concealed in a deep nest, invariably built in dense undergrowth, it is presumably independent of such protective devices; and still more unlikely is it, that the young of so highly specialized a group of birds as the Cuckoos should retain the primitive body-clothing, and this quite apart from the fact that both the distribution and structure of these trichoptiles point the way to deductions of an opposite nature.

The pterylosis of the adult *Centropus sinensis* differs in one or two details from that of *C. celebensis* as described by



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EMBRYO AND NESTLINGS OF
CENTROPUS SINENSIS.

Beddard *. In *C. celebensis* the ventral tract divides much lower down the neck, the pt. capitis is more sparse, the apt. colli lat. is (judging by the figure) more circumscribed, and, most important of all, the pt. spinalis is completely interrupted save for a few scattered feathers at the level of the junction of the coracoid and scapula, thus approximating to the arrangement of the tract in the Stage 3 nestling of *C. sinensis*. It is impossible to regard the complete spinal tract as anything but the more primitive: this condition of the tract is exhibited by the trichoptile-clad embryo and nestling (Stage 2) of *C. sinensis,* whilst the adult is intermediate between them and the insular and more modified species *C. celebensis*; it would be interesting to see what place in this series would be taken by the young of the latter species.

EXPLANATION OF PLATE XIII.

Embryo and Nestling of *Centropus sinensis.*

A. Embryo from right side, showing the mane-like trichoptiles described on pp. 656-666.

B. Head and neck of a nestling showing the appearance of the trichoptiles after hatching, p. 666.

C. Nestling in which the definitive feathers are making their appearance: to show the relations of these with, and their proportions to, the trichoptile.

u = umbilicus. *t* = tail.

XLII.—*On some Additional Species of Parrots of the Genus* Pyrrhura. By T. Salvadori.

(Plate XIV.)

The genus *Pyrrhura,* as treated in volume xx. of the 'Catalogue of Birds,' contains 19 species, besides a doubtful one, *Pyrrhura chiripepé* (Vieill.), mentioned in the appendix. At the present moment, nearly nine years after the publication of my volume, I find that there are four species to be added to those mentioned in the 'Catalogue,' one of which requires a new name.

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* "On the Structural Characters and Classification of Cuckoos," P. Z. S. 1885, p. 168.

1. Pyrrhura chiripepé (Vieill.).

Of this species I have examined, besides a specimen obtained by Dr. Borelli at Villa Rica, in Paraguay, three others, a male and two females, from Tebicuari, not far from Villa Rica, also obtained, but quite recently, by Dr. Borelli, and two specimens, male and female, from Ypanema, in Turati's Museum, collected by Natterer.

On the receipt of the first specimen, I fully recognized that Graf von Berlepsch's surmise (Journ. f. Orn. 1887, p. 25), as to the Paraguayan bird being probably distinct from the Brazilian *P. vittata*, was quite justified, and I took the opportunity to publish a note on *Pyrrhura chiripepé* (Vieill.)*. In this note I gave the history of the species, its synonymy, a Latin description, and its probable distribution, which from Central Paraguay (Asuncion and Villa Rica) appears to extend, not only to Rio Grande do Sul, according to Graf von Berlepsch's information (Zeitschr. ges. Orn. 1885, p. 163), but also north to Ypanema, in the Province of São Paulo, as the two specimens in the Turati Museum, collected by Natterer in that locality, certainly agree with the Paraguayan ones. As to the birds obtained by Natterer at Matto dentro, Curytiba, and Itararé, also in the Province of São Paulo,it is most likely that they will be found to agree with those from Ypanema, and to belong to *P. chiripepé*.

The nearly allied *P. vittata* is confined to a more north-eastern part of Brazil, especially in the Province of Minas Geraes.

The synonymy and distribution of *Pyrrhura vittata* and of *P. chiripepé* requiring revision, I add them, according to the most recent information.

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* "Intorno alla *Pyrrhura chiripepé* (Vieill.) e descrizione di una nuova specie del genere *Pyrrhura*" (Boll. Mus. Tor. n. 190, pp. 1-4, 1894).

Pyrrhura vittata*.

La Perruche Ara à bandeau rouge Levaill. Perr. pl. 17 (Brazil) (1801).

Psittacus vittatus Shaw (nec Bodd.), Gen. Zool. viii. 2, p. 404 (ex Levaill.) (1811); Kuhl, Consp. Psitt. p. 21 (1820); Voigt, Cuv. Das Thierreich, i. p. 726 (1831); Hahn, Orn. Atl., Papag. p. 37, t. 21 (pess.) (1834).

Psittacus frontalis Vieill. N. D. xxv. p. 361 (Guiana!) (1817); id. Enc. Méth. iii. p. 1396 (1823).

Psittacus undulatus Licht., Illig. in Mus. Berol., fide Kuhl, Consp. Psitt. p. 21 (1820); Licht. Verz. Doubl. p. 7 (Brazil) (1823); id. Nomencl. Av. p. 73 (1854).

Banded Parrot Lath. Gen. Hist. ii. p. 115 (1822).

Aratinga fasciatus Spix, Av. Bras. i. p. 35, t. xxi. ff. 1, 2 (♂ ♀, Minas Geraes et Rio de Janeiro) (1824); Steph. Gen. Zool. xiv. p. 138 (1826); Brehm, Mon. d. Papag. t. 25. ff. 1, 2.

Psittacara vittatus Vig. Zool. Journ. ii. p. 389 (1825); Steph. Gen. Zool. xiv. p. 116 (1826).

Conurus vittatus Less. Tr. d'Orn. p. 213 (1831); G. R. Gr. Gen. B. ii. p. 414, n. 23 (1845); Burm. Syst. Ueb. ii. p. 178 (part., Minas Geraes) (1856); G. R. Gr. List Psitt. Brit. Mus. p. 40 (Brazil) (1859); Scl. Cat. Am. B. p. 349, n. 2084 (Brazil) (1862); Schleg. Mus. P.-B., *Psittaci*, p. 24 (part.) (1864); Finsch, Die Papag. i. p. 530 (part.) (1867); Reinh. Vid. Meddel. 1870, p. 81 (Lagoa Santa); Pelz. Orn. Bras. pp. 259, 446, lii (part.) (1871); Scl. et Salv. Nom. Av. Neotrop. p. 112, n. 29 (part.) (1873); ? Schleg. Mus. P.-B., *Psittaci*, Revue, p. 6 (Venezuela!) (1874); Salv. Cat. B. Strickl. Coll. p. 466 (1882); Scl. List Vert. An. 8th ed. p. 344 (1883).

Psittacus infulatus Licht. fide Wied, Beitr. iv. p. 193 (1832).

Sittace vittata Wagl. Mon. Psitt. p. 641 (1832); Hartl. Syst. Verz. Ges. Mus. p. 86 (1844).

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* Probably we shall have to give up the name of *P. vittata* in favour of *Pyrrhura frontalis* (Vieill.), as the name *Psittatus vittatus* Shaw (1811) is antedated by *P. vittatus* Bodd. (1783).

Microsittace vittata Bp. Rev. et Mag. de Zool. 1854, p. 150, n. 50; Souancé, Rev. et Mag. de Zool. 1856, p. 62 (part., ad.); Sousa, Mus. Nac. Lisboa, *Psittaci*, p. 9 (1869); Cab. Journ. f. Orn. 1874, p. 228 (Cantagallo).

Pyrrhura vittata Bp. Naumannia, 1856, Consp. Psitt. n. 34; Rchnw. Vogelbild. t. xxii. f. 2 (1878–83); id. Journ. f. Orn. 1881, p. 286 (Consp. Psitt. p. 174); Salvad. Cat. B. xx. p. 214 (part.) (1891); Forbes & Robins. Bull. Liverp. Mus. i. p. 12 (1897); Dubois, Syn. Av. i. p. 13, n. 161 (1899).

Hab. Eastern Brazil: Minas Geraes, Rio de Janeiro.

PYRRHURA CHIRIPEPÉ.

Chiripepé Azara, Apunt. Hist. Nat. Parag. i. p. 429, n. 281 (1803); id. Voy. (ed. Sonn.) iii. p. 65 (1809); Berl. Journ. f. Orn. 1887, p. 25.

Psittacus chiripepé Vieill. N. D. xxv. p. 361 (1817) (ex Azara); id. Enc. Méth. iii. p. 1396 (1823); Finsch, Papag. ii. 2, p. 917 (sp. dubia, descr. err.) (1868).

Chiripepé Parrakeet Lath. Gen. Hist. ii. p. 191 (1822).

Sittace chiripepé Wagl. Mon. Psitt. p. 644 (1832).

Conurus chiripepe G. R. Gr. Gen. B. ii. p. 413, n. 20 (1845); Hartl. Ind. Azara, Apunt. p. 18, n. 281 (1847); G. R. Gr. List Psitt. Brit. Mus. p. 42 (1859).

Microsittace cheripepe Bp. Rev. et Mag. de Zool. 1854, p. 150, n. 55.

Pyrrhura chiripepe Bp. Naumannia, 1856, Consp. Psitt. n. 45; G. R. Gr. Hand-list, ii. p. 149, n. 8142 (1870); Salvad. Cat. B. xx. p. 608 (sp. dubia, descr. erronea) (1891); id. Boll. Mus. Tor. n. 190, pp. 1–3 (Paraguay, Rio Grande do Sul) (1894), n. 208, p. 18 (Villa Rica) (1895); Forbes & Robins. Bull. Liverp. Mus. i. p. 12 (1897).

Conurus vittatus, Burm. Syst. Ueb. ii. p. 178 (part., São Paulo) (1856); Schleg. Mus. P.-B., *Psittaci*, p. 24 (part., Ypanema) (1864); Finsch, Die Papag. ii. p. 530 (part.) (1867); Pelz. Orn. Bras. pp. 259 (Matto dentro, Ypanema, Curytiba, Itararé), 446 (Rio Grande do Sul, São Paulo), lii (part.) (1871); Hamilt. Ibis, 1871, p. 308 (Itapetininga, São Paulo); Berl. u. Ihering, Zeitschr. f. ges. Orn. 1885, p. 163

(Rio Grande do Sul); Berl. Journ. f. Orn. 1887, pp. 25, 121 (Paraguay).

Pyrrhura vittata, part., Salvad. Cat. B. xx. p. 214 (São Paulo, Curytiba) (1891); Kerr (nec Shaw), Ibis, 1892, p. 140 (Lower Pilcomayo).

Pyrrhura vittata var. *chiripepé* Dubois, Syn. Av. i. p. 13, n. 50 (1899).

Hab. Paraguay (Asuncion, Villa Rica, Tebicuari); N. Argentina (Lower Pilcomayo); S.E. Brazil (Rio Grande do Sul, São Paulo).

2. PYRRHURA BORELLII.

Pyrrhura borellii Salvad. Boll. Mus. Tor. n. 190, p. 3 (1894), n. 208, p. 18 (1895); Forbes & Robins. Bull. Liverp. Mus. i. p. 12 (1897); Dubois, Syn. Av. i. p. 13, n. 164 (1900).

Of this species I gave the following diagnosis, besides a full description:—

"*Pyrrhura P. chiripepé* simillima, sed flexura alarum rubra, collo antico et pectore magis infuscatis, remigibus primariis earumque tectricibus lætius cyanescentibus dignoscenda."

The type specimen of *P. borellii*, a male, still unique, was obtained by Dr. Borelli at Colonia Risso, near the Rio Apa, in the Upper Paraguay, 4° N. of Villa Rica, where he met with *Pyrrhura chiripepé*.

3. PYRRHURA HYPOXANTHA. (Plate XIV.)

Pyrrhura hypoxantha Salvad. Boll. Mus. Tor. n. 363, p. 1 (1899).

Supra viridis, pileo fusco, cervice cyaneo tincta; genis viridibus, plumarum marginibus plus minusve flavicantibus; uropygii plumarum margine obtecto flavo; supracaudalibus viridibus, margine interno flavo, rubro tincto, extimis cyaneo tinctis; gula et collo antico albidis, hoc inferius rosaceo induto et sensim in colorem flavum gastræi, seu pectoris, abdominis tibiarumque transeunte; abdomine plaga media ruberrima ornato; plumis colli antici linea scapali fusca notatis; plumis pectoris, abdominis tibiarumque viridi marginatis; subcaudalibus cyaneis, basi flavidis; alis viridibus, remigibus primariis earumque tectricibus cæruleis, scapis et limbo apicali nigricantibus; pogonio externo remigis primæ ad basin albo; subalaribus flavis; margine carpali viridi; cauda rubro-brunnea, sed rectricum basi rosacea, vel pallide rubro-corallina; rostro pedibusque obscure griseis; iride castanea; palpebris albis. Long. tot. circa 280 mm.; al. 135; caud. 140; rostri culm. 19; tarsi 11.

Hab. Matto Grosso, in sylvis prope Urucum.

Dr. Borelli obtained only two specimens of this lovely species, both females, and nearly similar, but one of them, perhaps older, with a reddish spot over the eye, and with the breast more distinctly tinged with rose-colour. Dr. Borelli saw a third specimen, but did not succeed in obtaining it. They were living in company with examples of *P. molinæ*. Urucum is a place about 18 kilometres to the S.W. of Corumbá*.

4. PYRRHURA GRISEIPECTUS, sp. nov.

Pyrrhura leucotis Reichenow (nec Kuhl), Vogelbild. t. xxviii. f. 8 (1878–83); id. Journ. f. Orn. 1881, p. 338 (Consp. Psitt. p. 178); Salvad. Cat. B. xx. p. 216 (part.) (1891).

Viridis; pileo fuscescenti-cano; nucha cærulescente; margine frontali, regione periophthalmica et genis late rubro-castaneis; regione parotica albida, gutturis plumis canis, albido-limbatis; ventre medio rubro; flexura coccinea; uropygio et rectricibus cerasinis, his saturatioribus et ad basin viridi-limbatis; remigibus primariis in pogonio externo earumque tectricibus cæruleis; rostro nigro, pedibus carneis (*Reichenow*), in exuvie fuscis; iride crocea (*Reichenow*). Long. tot. circa 220 mm.; al. 125; caud. 135; rostri culm. 18; tarsi 12.

Hab. —— ?

This species belongs to the section of the genus *Pyrrhura* characterized by having on the lower back a brown-red patch, the breast with transverse bars, the cheeks maroon, and the bend of the wing red. It is allied both to *P. leucotis* (Kuhl) and *P. emma* Salvad. ex Verr., but it is easily distinguished from both by the feathers of the throat and upper breast being pure grey edged with whitish, with no tinge whatever of green or bluish colour ; moreover the grey breast is sharply defined from the green below, and there is no bluish tinge whatever on the forehead. Dr. Reichenow (*ll. cc.*) has described and figured this species under the name of *P. leucotis*. I have called his attention to the probable distinctness of the bird described by him, and he writes agreeing entirely with my conclusions, adding that the specimen in the Berlin Museum had been kept in captivity, and there is no clue to its origin. The Turin Museum possesses two specimens exactly like Dr. Reichenow's plate, both of which had been kept in confinement by Count Peracca, who received them from a dealer ; their exact locality is unknown, but I suspect that Guiana is the place where the species may be looked for.

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* See Boll. Soc. Geogr. Ital. x. p. 367.

Owing to these additions, the key to the species of the genus *Pyrrhura* printed in the 'Catalogue of Birds' must be partly altered as follows, so as to include *P. chiripepé* and the newly-described species :—

a. A brown-red patch on the lower back.
  a'. Breast blue, with no transverse bars .. 1. *cruentata*, p. 213.
  b'. Breast with transverse bars, or scale-like appearance.
    a''. Breast with transverse bars.
      a'''. Cheeks and pileum green.
        a^4. Tail green above, more or less tinged with reddish towards the tip of the rectrices .... 2. *vittata*, p. 214.
        b^4. Tail above uniform olive-green.
          a^5. Bend of the wing green .... 3. *chiripepé*.
          b^5. Bend of the wing red ...... 4. *borellii*.
      b'''. Cheeks maroon, bend of the wing red.
        c^4. Fore-neck and breast bluish-green, gradually blending in the green colour of the lower parts.
          c^5. Pileum brown, with a very slight tinge of blue near the forehead .... 5. *leucotis*, p. 216.

d^5. Crown brown, sinciput and nape extensively blue	6. *emma*, p. 217.
d^4. Fore-neck and breast pure grey, with the edges of the feathers whitish	7. *griseipectus*.
b''. Breast and throat with a scale-like appearance	8. *picta*, p. 217. 9. *luciani*, p. 219.
b. No brown-red patch on the lower back.	
c'. With distinct pectoral bars.	
c''. Sides of the body and thighs yellow.	10. *hypoxantha*.
d''. Sides of the body not yellow	11. *egregia*, p. 221. 12. *calliptera*, p. 221. 13. *melanura*, p. 222. 14. *souancei*, p. 223. 15. *berlespchi*, p. 224. 16. *rupicola*, p. 224. 17. *molinæ*, p. 225. 18. *devillei*, p. 226. 19. *perlata*, p. 227. 20. *rhodogaster*, p. 229.
d'. With no distinct pectoral bars; ear-coverts red	21. *hæmatotis*, p. 229. 22. *rhodocephala*, p. 229. 23. *hoffmanni*, p. 230.

Turin, Zoological Museum,
June 1900.

XLIII.—*Bulletin of the British Ornithologists' Club.*

No. LXXIII. (July 3rd, 1900).

The seventy-second Meeting of the Club was held at the Restaurant Frascati, 32 Oxford Street, on Wednesday, the 20th of June, 1900. *Chairman*: P. L. Sclater, F.R.S. Twenty-two Members and five guests were present.

Mr. H. F. **Witherby** exhibited a male specimen of *Caprimulgus eximius* procured by him on the White Nile near Khartoum, in May 1900. So far as was known, this was the fifth example of this bird that had been procured. Three examples were obtained in 1823 or 1824 by Hey, Rüppell's collector, probably near the White Nile. Two of these were now at Frankfurt and one at Leyden (see Hartert, Ibis, 1892,

p. 279). A fourth, in the Hon. Walter Rothschild's collection at Tring, was procured by Schimper and Baron von Müller, and was labelled "Nubia" (see Hartert, 'Novitates Zoologicæ,' vol. i. p. 3).

Mr. T. Parkin made some observations on the abundance of bird-life noticed by him in the Southern Oceans.

The following was the list of birds obtained during a day's shooting in a calm on December 2nd, 1890, in the Cape Seas, when on a voyage to Australia in the clipper ship 'Sobraon,' South Atlantic Ocean, lat. 39° 51′ S., long. 8° 49′ E.

*7 Wandering Albatrosses (*Diomedea exulans*).
2 Black-eyebrowed Albatrosses (*D. melanophrys*).
6 Culminated Albatrosses (*Thalassogeron culminatus*).
1 Yellow-nosed Albatross (*T. chlororhynchus*).
1 Great Grey Petrel (*Priofinus cinereus*).
1 Silver-grey Petrel (*Priocella glacialoides*).
1 Great Black Petrel (*Majaqueus æquinoctialis*).
1 Brown Petrel (*Œstrelata incerta*)?
2 Soft-plumaged Petrels (*Œstrelata mollis*).
2 Yellow-webbed Storm-Petrels (Wilson's) (*Oceanites oceanicus*).
2 Black-billed Storm-Petrels (*Cymodroma melanogaster*).
1 White-billed Storm-Petrel (*C. grallaria*).
6 Dove like Prions (*Prion desolatus*).

Mr. W. P. Pycraft gave a brief summary of the results of his recent investigations in the Morphology of the Ratitæ, and suggested a new basis of classification for this group. Dr. R. Bowdler Sharpe and the Hon. Walter Rothschild took part in the discussion which followed.

Mr. W. R. Ogilvie Grant sent a description of a new species of Stone-Pheasant collected by Lord Delamere in

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* The Wandering Albatrosses were all *D. exulans*, and, so far as my memory goes, none of them could come under the head of *D. regia*.—T. P.

British East Africa. The species was named after Lady Delamere:—

PTILOPACHYS FLORENTIÆ, sp. n.

Closely allied to *P. fuscus*, but distinguished by having the plumage altogether darker, the black markings, especially on the underparts of the body, being much coarser. The mantle and upper back are devoid of the broad chestnut shaft-streaks characteristic of *P. fuscus*; on the sides of the breast, belly, and flanks the wide chestnut middles to the feathers are much reduced, and the sides of the feathers are strongly barred with black and white. Iris brown; bill and legs dull red. Total length about 10 inches, wing 4·7, tail 3·6, tarsus 1·15.

Hab. Gessema, British East Africa.

XLIV.—*Notices of recent Ornithological Publications.*

[Continued from p. 562.]

103. *Adams on the Birds of Western Rajputana.*

[The Western Rajputana States, a Medico-topographical and General Account of Marwar, Sirohi, and Jaisalmir. By Lieut.-Col. Archibald Adams. London, 1899. 1 vol. 8vo.]

This is a statistical account of the three above-mentioned Rajputana States of Western India, embellished by numerous illustrations and apparently well put together. The list of birds, which is compiled from the writings of Butler, Hume, and Marshall, contains little, if anything, original, except a few introductory remarks. The well-known health-resort of Mount Abu, which comes within the limits of the work, attracts many species which would otherwise leave the country during the breeding-season. Here the Indian Cuckoo calls from May to August, and bird-life is abundant.

104. *Arrigoni degli Oddi on rare Birds in Italy.*

[L'*Aquila rapax* (Temm.) ed il *Buteo desertorum* (Daud.) per la prima volta osservati in Italia. Per Prof. Ettore Arrigoni degli Oddi. 'Avicula,' iii. fasc. 21–22.]

The author records the recent addition of these two

Raptores to the Italian avifauna. A young male *Aquila rapax* was shot in November 1898, at Stagno di Cágliari in Sardinia; and a young female *Buteo desertorum* was obtained in the flesh in the market of Foggia in February 1899, so that there could be no doubt of its having been shot in the neighbourhood. Full descriptions of both the specimens are given.

105. *Barrington on the Migration of Birds at Irish Light-Stations.*

[The Migration of Birds as observed at Irish Lighthouses and Lightships, including the Original Reports from 1888–97, now published for the first time, and an Analysis of these and the previously published Reports from 1881–87; together with an Appendix giving the measurements of about 1600 Wings. By Richard M. Barrington. Pp. 285 Analysis, pp. 660 Reports. London, R. H. Porter; Dublin, Edward Ponsonby, 1900.]

It is hardly necessary to remind our readers that Reports on the Migration of Birds as observed at Light-stations in the United Kingdom were published by a Committee of the British Association from 1881–87 inclusive, after which they were discontinued, and the preparation of a digest was entrusted to Mr. W. Eagle Clarke, who completed his task in 1896. Reference to 'The Ibis' for 1897, p. 272, will show our high appreciation of the manner in which he performed this onerous work. After 1887 it appears to have been considered that enough had been done, and, at all events, no further schedules were issued from the Association; but Mr. Barrington held different views, and was of the opinion that no digest could yield satisfactory results unless it were based upon a much longer series of years. He has, accordingly, continued, at great personal expense, the issue of schedules to the Light-stations of Ireland for ten years longer, with the result that not merely bald, and often unsatisfying, records have been furnished by the light-keepers, but, in addition, over *two thousand specimens* of birds—or wings and feet of birds—have been forwarded to him, leading to very important identifications. Among these may be mentioned the Woodchat Shrike (*Lanius pomeranus*), unique for Ireland; four examples of the Red-breasted Flycatcher (*Muscicapa parva*), all obtained in autumn; the Golden Oriole (*Oriolus galbula*) in May; the Black Redstart (*Ruticilla tithys*), which is now shown to be a regular visitant and not a mere straggler, as formerly supposed; the Lesser Whitethroat (*Sylvia curruca*) twice in autumn, the only occurrences for Ireland; the Barred Warbler (*S. nisoria*); the Yellow-browed Warbler (*Phylloscopus superciliosus*), the Short-toed Lark (*Alauda brachydactyla*), and the Lapland Bunting (*Calcarius lapponicus*), all three unique for Ireland; and the Wryneck (*Iÿnx torquilla*), four examples out of six on record for Ireland. These, though sufficient in themselves to show the value of the observations, are merely the most remarkable species; but, while they appeal to the chronicler of rarities, the records of the dates and frequency of the occurrences of more vulgar species are of no less importance. On these points attention may be invited to the migrations of the Turdidæ; also to the times at which birds strike the lanterns of the lighthouses, and to an important suggestion respecting one reason why birds of weak flight migrate by night rather than by day—namely, the predacious propensities of the numerous Gulls. Not only are the larger species a terror, but even *Larus canus* has been proved to attack and kill birds up to the size of a Blackbird on the wing, and the smaller *Larus ridibundus* is not innocent in this respect.

It would be easy to extend our notice of this fascinating volume, but several pages would be required to do it anything like justice. The large map and the insets are very useful, and there is a full index. We strongly recommend our readers to lose no time in obtaining a copy for their library, for the issue is very small, and we should not be surprised to find it exhausted within the twelvemonth. As a record it does great credit to Mr. Barrington and those whom he names as having cooperated with him from year to year, not forgetting the light-keepers, whose interest seems to have increased annually. We are sorry to gather from a "Note added in press" that some expressions in the Preface have "been understood as reflecting on the results obtained by the British Association Committee and Mr. Eagle Clarke," and Mr. Barrington hastens to disclaim any idea of the kind. For ourselves, we had read the Preface before this slip was issued, without the slightest suspicion of an *amari aliquid*, and even now, with our curiosity stimulated, we confess our inability to detect any phrase calculated to cause offence to the most susceptible.

106. *Bianchi on the Genus* Tetraogallus.

[Uebersicht der Arten der Gattung *Tetraogallus* Gray. Von V. Bianchi. Aus dem Russischen übersetzt von Michael Härms. J. f. O. 1899, p. 421.]

Herr Härms has translated from the Russian original Bianchi's revision of the species of *Tetraogallus*, published in December 1898 in the 'Annuaire du Musée Zoologique' of the Imperial Academy of Sciences of St. Petersburg. The species of *Tetraogallus* usually recognized are six:—*TT. caucasicus, caspius, himalayensis, altaicus, tibetanus*, and *henrici*. To these M. Bianchi proposes to add two new subspecies of *T. himalayensis*, namely, *T. h. grombczewskii* (from the Western Kuen-Lun) and *T. h. koslowi* (from the Altyn-tagh, Western Nan-schan, and Southern Koko-nor chains). All the eight forms are carefully diagnosed and their ranges are fully described.

107. *Coward and Oldham's 'Birds of Cheshire.'*

[The Birds of Cheshire. By T. A. Coward and Charles Oldham. With six Photogravure Illustrations and a Map of the County. Pp. 278. 8vo. Sherratt and Hughes, 1900.]

Among the meritorious works issued of late years on the birds of counties or areas the present volume takes very high rank; in fact it may be styled a model, for there is no extraneous matter, but a plain record of observations. The announcement that our M.B.O.U., Mr. Frank Nicholson, has read the proofs is in itself a guarantee of the quality of the field-notes, for his acquaintance with the districts surrounding Cheshire, as well as the county itself, must be almost unrivalled. The physical features of the areas into which the county may be divided, namely the central plain, the hill country of the east, and the Wirral peninsula and marshes of the Dee, are well described; and in spite of the spread of population on the Lancashire side, coupled with the inevitable reclamation of marsh-land, it is clear that plenty of wild country is still left for the ornithologist in Cheshire. In number of species the county is not very rich—only 222; but these are all genuine, and there has been no attempt to swell the list. The fact is that Cheshire lies too far to the west for some migrants, while it is yet a little too far east for the inferior line of passage which passes down the west coast of Great Britain and crosses the Irish Sea by Wigtonshire, Anglesea, and the Isle of Man. The illustrations are pretty, the bibliography forms a good feature, and the index is copious; but the map is hardly up to the standard of the rest of the book.

108. *De Kay's 'Bird-Gods.'*

[Bird-Gods by Charles de Kay. With an Accompaniment of Decorations by George Wharton Edwards. London: Harry R. Allenson. 1 vol. 8vo. 250 pp.]

We have received a copy of this curious book with a request that it may be noticed in 'The Ibis.' It is difficult to pick out the thread of the author's ideas from his remarks, for these wander into all sorts of subjects that are quite unfamiliar to plain ornithologists. Perhaps the subjoined extract from the preface will serve to explain the purport of the volume:—

"I follow in mythology and epic poetry and legends the traces of certain birds, the Eagle, the Swan, the Woodpecker, the Cuckoo, the Owl, the Peacock, the Dove, and try to show how their peculiarities and habits, observed by primitive man with the keenness of savages, have laid the foundation for certain elements in various religions and mythologies, and sometimes furnished, through the peculiarities of the creature's habits or character, the skeleton plots on which a host of legends and tragedies has been built by the imagination of poet-priests and poet-historians of the early days."

109. *Fatio on the Birds of Switzerland.*

[Faune des Vertébrés de la Suisse. Par Victor Fatio. Vol. II. Oiseaux. 1re Partie, Rapaces, Grimpeurs, Percheurs, Bailleurs et Passereaux. Avec 3 Planches hors texte, dont 2 en couleurs, 1 carte géographique coloriée, 135 figures dans le texte, dont 127 originales, et 26 tableaux. Genève et Bâle: Georg & Co., 1899.]

We welcome the first instalment of a complete and up-to-date work on the avifauna of Switzerland, from the pen of our accomplished Foreign Member. The portion which relates to the diurnal Raptores contains far more details than those given in the treatise published in 1889 in collaboration with Dr. T. Studer (*cf.* Ibis, 1889, p. 394), while all the rest of the work will be absolutely new to our readers. Dr. Fatio very properly places a note of query to such species as the American *Turdus solitarius*, ascribed to Switzerland by the credulous Degland and Gerbe; but the occurrence of *T. fuscatus* in Aarau, as a wanderer, is not improbable; and the irregular appearance of *Sylvia melanocephala* near Geneva might be expected. The figures in the text are adequate; the synoptical lists leave nothing to be desired, and there is an excellent index. We shall be glad to see Part II., with the coloured plates that have been unavoidably omitted from this volume.

110. *Festa on the Breeding of a Curassow in Europe.*

[Allevamento della *Crax panamensis* in Piemonte. Del Enrico Festa. Boll. Mus. Zool. Università di Torino, xv. no. 361.]

Dr. E. Festa, whose splendid collection of the birds of Ecuador has recently been catalogued by Count Salvadori (*cf.* Ibis, suprà p. 559), brought home with him in 1898, from Panama, a male and two females of *Crax panamensis*. From eggs of one of these females laid in May 1899 two young birds were artificially hatched and successfully reared. Dr. Festa describes their various changes of plumage.

111. *Finn on some Indian Weaver-birds.*

[Notes on the *Ploceidæ*. By F. Finn. J. A. S. B. lxviii. pt. 2, p. 250, 1899.]

Mr. Finn has discovered that his supposed new Indian

Weaver-bird, *Ploceus rutledgii*, is merely *P. megarhynchus* Hume, in summer plumage. He also suspects that *Munia malaca* interbreeds with *M. atricapilla*, and makes a suggestion for a more natural division of the Ploceidæ, from the form of the culmen, into Ploceinæ and Spermestinæ. He likewise records his experiments on sexual selection in the Avadavat (*Sporæginthus amandava*).

112. *Hall on* Pardalotus assimilis.

[Notes on the Occurrence in Victoria of a Phase of the Subspecies *Pardalotus assimilis* Ramsay. By Robert Hall. Proc. Linn. Soc. N. S. Wales, 1899, p. 472.]

Mr. Hall describes a form of *Pardalotus* occurring in Victoria, which is considered to be "a phase" of *P. assimilis* Ramsay, and presents some slight differences from that subspecies of *P. affinis* (*cf.* Cat. B. x. p. 56).

113. *Härms on the Birds of Archangel.*

[Beiträge zur Kenntnis der ornithologischen Fauna des Archangelsker Gouvernements. Von Michael Härms. Ornithol. Jahrb. xi. p. 81.]

The author passed thirteen days in July 1899 (6th to 18th) at Sijskov, a village on the river Dwina, near the confluence of the Sija, in 63° 37′ N. lat., and made a good collection of birds, of which he gives an annotated list. *Phylloscopus borealis* was found breeding, and at that time had unfledged young. One of the most interesting Passerines met with was *Emberiza aureola*, of which 21 examples were obtained. It inhabits the meadows on the banks of the Dwina, and has a short melodious song; its nests and eggs were taken.

114. *Hartert on the Study of Subspecies.*

[Ueber das Studium der Unterarten. Von Ernst Hartert. J. f. O. 1900, p. 129.]

Mr. Hartert sends us a separate copy of his discourse on subspecies which was read before the Anniversary Meeting of the German Ornithological Society in October 1899. We will venture to make a few remarks on it, and to say that we agree with the author in the main. There can be no doubt that geographical forms of widely spread species exist, and that they are worthy of careful study. By far the best way of designating them is the trinomial system, only that we should prefer to call the originally described form "typicus" instead of repeating the specific term: for *Merula merula merula* is really unbearable. But the trinomial plan has been discredited amongst many sober and "old-fashioned" ornithologists, owing to the light and easy way in which some of the *novi homines* create subspecies without sufficient material, sometimes even on a single specimen. As Mr. Hartert himself remarks, it requires much more evidence to found a good subspecies than a good species. A single specimen may be quite sufficient basis for the former, while for the latter a large series is necessary. And subspecies are, on account of the slighter differences between them, much more matters of individual opinion than the better-defined species. While, therefore, we admit that subspecies must be used in certain cases, we advocate much greater care in their institution.

115. *Le Souëf's Visit to Western Australia.*

[A Visit to Western Australia. By D. Le Souëf. Victorian Naturalist, xvi. p. 185.]

Mr. Dudley Le Souëf sends us a copy of an address to the Field Naturalists' Club of Victoria, which contains an account of his visit to Western Australia in October 1899, and of what he saw—botanical and zoological. Several pages are devoted to the birds, which, however, are stated not to be numerous except in certain favoured localities. It is an error, Mr. Le Souëf tells us, to suppose that all the Emeus of Western Australia belong to the spotted form named *Dromæus irroratus*. If this be the case, the so-called species is (as we have long suspected) probably not even a local form or subspecies, but merely a casual variety.

116. *Madarász on* Anser neglectus *in Hungary.*

[*Anser neglectus* Sushk., a Magyar Orniszbad. Von Dr. Julius von Madarász. Termész. Füzetek, xxiii. p. 75.]

Dr. v. Madarász records the occurrence in Hungary of a specimen of the lately described *Anser neglectus* Sushk. (*cf.* Ibis, 1897, p. 8). It was purchased in the market at Pesth, and is said to have been obtained near Pancsova on Jan. 1st, 1900. It agrees in every particular with the original description of Sushkin. Other examples are believed to have been seen in the same market.

117. *Madarász on the* Acredulæ *of the Caucasus.*

[Ueber die Kaukasischen *Acredula*-Arten. Von Julius v. Madarász. Termész. Füzetek, xxii. p. 197.]

Dr. v. Madarász has studied a series of Long-tailed Tits from the Caucasus, and has come to the conclusion that five species of *Acredula* occur there. Two of these, which he considers to be new and names respectively *A. dorsalis* and *A. senex,* are figured in a coloured plate. The three other species recognized as Caucasian are *A. tephronota, A. caucasica,* and, strange to say, the typical *A. caudata* of the North.

118. *Madarász on Birds from Zeng.*

[Bemerkungen zu Prof. M. Marek's Artikel "Ornithologisches aus Zengg." Von Jul. v. Madarász. Ornithol. Jahrb. xi. p. 71.]

Zeng is in Croatia, on the shores of the Adriatic. Dr. v. Madarász criticizes some identifications made by Prof. Marek in an article on the birds of this district (Termész. Füz. xxii. p. 344) and takes the opportunity of calling attention to his new generic term "*Ptilocorys,*" for the Crested Larks (proposed in 'Magyororszag Madaras,' p. 48, 1899), in place of "*Galerida,*" because he considers the latter untenable.

119. *Martorelli on* Spiziapteryx circumcinctus.

[Nota Ornitologica sullo *Spiziapteryx circumcinctus* (Kaup) del Prof. Giacinto Martorelli. Atti Soc. Ligustica Sci. Nat. e Geogr. vol. x. p 5, 1900.]

Prof. Martorelli sums up our knowledge of the rare Diurnal Bird of Prey, *Spiziapteryx circumcinctus* (first figured in

'The Ibis' for 1862, pl. ii.) of Argentina, and gives a new description and figure of it from a specimen in the Turati collection at Milan.

120. *Neumann on the Genus* Sigmodus.

[Neue und seltene Arten des Genus "*Sigmodus,*" Temm. Von Oscar Neumann. Ornithol. Monatsb. 1899, p. 89.]

Herr Neumann reviews some of the African Bush-Shrikes of the genus *Sigmodus,* and makes two new subspecies of *S. retzii*—namely, *S. r. nigricans* from Northern Angola, and *S. r. intermedius* from Tanganyika and Victoria.

121. *Neumann on the African Bush-Shrikes.*

[Beiträge zu einer Revision der *Laniarinen.* Von Oscar Neumann. J. f. O. 1899, p. 387.]

Herr Neumann reviews the African Bush-Shrikes of the six genera *Malaconotus, Cosmophoneus, Chlorophoneus, Pelicinius, Laniarius,* and *Dryoscopus*; *Cosmophoneus* being a new genus instituted for *Laniarius multicolor* and its allies. The following species and subspecies are described as new:—*Malaconotus hæmatothorax* from Cameroon, *M catharoxanthus* from the White Nile; *Cosmophoneus preussi* from Cameroon, *C. reichenowi* from Cameroon, *C. sulphureopectus suahelicus* from East Africa; *Laniarius æthiopicus hydridus* from Transvaal; *Dryoscopus malzacii nyansæ* from Kavirondo and Uganda, *D. m. erythreæ* from Erythræa, *D. cubla occidentalis* from Angola, and *D. c. suahelicus* from British and German East Africa. The various forms of *Laniarius æthiopicus,* after a special study of their divergences, are reduced to subspecies. In *Dryoscopus* several species are recognized which can be distinguished only in the female sex, the males being nearly identical.

122. *North on Nests and Eggs of Australian Birds.*

[Descriptions of the Nests and Eggs of Six Species of Australian Birds. By Alfred J. North, C.M.Z.S. Victorian Nat. xvi. p. 9.]

Much attention has been lately paid to the nests and eggs of the birds of every part of Australia, and we are expecting the publication of two works on this subject. Mr. North now describes the nests and eggs of the Drop-marked Bower-bird (*Chlamydodera guttata*) and of five other species of which the eggs were not previously known. It is stated that figures of all these eggs will be given in the second edition of 'The Descriptive Catalogue of the Nests and Eggs of Australian Birds' now in the press.

123. *Oberholser on Birds from the Santa Barbara Islands.*

[Notes on some Birds from Santa Barbara Islands, California. By Harry C. Oberholser. Proc. U.S. Nat. Mus. xxii. p. 229.]

This is a complete list, with various critical notes, of the 26 species of birds obtained in the summer of 1892 by Mr. C. P. Streator, during an expedition to the Santa Barbara Islands, off the coast of Califormia. The new "forms" have been already described, but it would have been better to have added references to the descriptions, which is not always done. Most of the peculiar "forms" are treated as only subspecifically different, but *Aphelocoma insularis* is pronounced to be quite distinct from "both of its mainland relatives." A few general remarks on the avifauna as a whole would have made this paper much more interesting.

124. *Oberholser on Abbott's Collections in Central Asia.*

[Notes on Birds collected by Doctor W. L. Abbott in Central Asia. By Harry C. Oberholser. Proc. U.S. Nat. Mus. xxii. p. 205.]

Mr. Oberholser catalogues the collection of birds made by the energetic American traveller Dr. W. L. Abbott in Kashmir and Ladak in 1895 and 1897 and presented to the U.S. National Museum. It contains 142 specimens, which are referred to 62 species. Mr. Oberholser proposes to separate a larger form of *Totanus calidris,* of which 4 specimens were obtained in Ladak, as *Totanus totanus eurhinus,* but we doubt much whether a subspecies ought to be based on so small a number of individuals. He likewise wishes to alter the name *Saxicola montana* Gould to *S. oreophila,* because Koch in 1816 applied the name *Saxicola montana* to *Monticola saxatilis*. We see no reason for this change and consider it to be unnecessary. Nor can we agree to adopt Mr. Oberholser's new name "*Perissospiza*" for *Pycnorhamphus*, because "*Picnoramphus*" of Rosenberg (a useless synonym of *Sphecothera*) is not identical. We also object to Mr. Oberholser's version of the specific name of the Blue Rock-Thrush. Linnæus called it "*cyanus*," which word is a substantive and cannot be altered to "*cyana*."

125. *Oberholser on Birds from Madagascar.*

[Catalogue of a Collection of Birds from Madagascar. By Harry C. Oberholser. Proc. U.S. Nat. Mus. xxii. p. 235.]

A collection of birds made in Madagascar (1894–96), chiefly in the neighbourhood of Imerina, by the Rev. James Willis, has been obtained by the U.S. National Museum. It contains 110 specimens belonging to 57 species, of which a catalogue with critical remarks is now given. Amongst the rarities are examples of *Lophotibis cristata, Ardeola xanthoptera*, and *Newtonia amphichroa*. By "*Anhinga rufa*" we presume *Plotus levaillanti* is indicated. To recently changed names such as this it is better to add the usual appellation, in order to assist the "slow coaches" who are not always alive to the newest discoveries of their more enlightened friends.

126. *Pycraft's 'Story of Bird-life.'*

[The Story of Bird-life. By W. P. Pycraft. London: George Newnes, Ld., 1900. 1 vol. 12mo. 244 pp. (Price 1*s*.)]

This is a very nice little book, and should be bought and read by every lover of birds, whether scientific or unscientific. We have seldom seen so much good and-mostly-correct information on our favourite subject compressed into so small a compass, and to be acquired at so cheap a rate. The twelve chapters on the bird's form and structure, its clothing, its food, its flight, its courtship, its home, its nursery, its distribution in time and space, and finally on its pedigree and descent are all full of interest. We may not perhaps agree in every particular with the author's views, but we have little fault to find with his statements, and his quotations are generally, although not always, well selected. But we are sorry that he should have been misled by the "poet Cowper" (and some recent writers) into believing the ancient myth about the mode of breeding of the Ostrich (*Struthio*). It is now perfectly well established that the Ostrich is monogamous, and that both cock and hen take part in the duties of incubation (see Ibis, 1899, p. 481). The little volume appears to have been very carefully "read," and the misprints are few, although we may remark that our great authority on the Cuckoo is "*Rey*," not "*Reh*" (see p. 163). But, on the whole, we have seldom met with a book so free from defects of this kind, and are pleased to be able to tell Mr. Pycraft that we close it with such a "feeling of satisfaction" as he hoped would follow its perusal. In our opinion it is one of the most instructive manuals on bird-life that has yet appeared.

127. *Richmond on a new* Dendrornis.

[Description of a new Bird of the Genus *Dendrornis*. By Charles W. Richmond. Proc. U.S. Nat. Mus. xxii. p. 317.]

Dendrornis striatigularis is based on a single specimen obtained at Alta Mira, Mexico, in 1894, by Mr. F. B. Armstrong. It is generally similar to *D. flavigaster*. The specimen is in the U.S. National Museum.

128. *Richmond on new Birds from Siam.*

[Descriptions of Three new Birds from Lower Siam. By Charles W. Richmond. Proc. U.S. Nat. Mus. xxii. p. 319.]

The collection made by Dr. W. L. Abbott in the province of Trong, Lower Siam, embraces some 1300 skins, including representatives of many species not yet recorded from that district. Mr. Richmond characterizes the following as new:—*Æthopyga anomala*, *Criniger sordidus*, and *Turdinulus granti*.

129. *Salter on Cardiganshire Birds.*

[List of the Birds of Aberystwyth and Neighbourhood. By J. H. Salter. 8vo. Pp. 19. Aberystwyth, 1900.]

Local lists of Welsh birds by competent field-naturalists are few and far between, so that Mr. Salter's contribution is very welcome, for the district of Cardiganshire in question has been little noticed by the ornithologist. The Notes on the 206 species recorded are brief, but they are to the purpose and all that can be desired.

130. *Sharpe on the Birds of Christmas Island.*

[A Monograph of Christmas Island (Indian Ocean). Physical Features and Geology by Charles W. Andrews. With Descriptions of the Fauna and Flora by numerous Contributors. (Birds by R. Bowdler Sharpe, LL.D., &c.). 8vo. London, 1900.]

Mr. Andrews's researches have doubled the number of the known birds of Christmas Island, as Mr. Lister's list (P. Z. S. 1888, p. 512) only gave the names of 14 species, and 29 are now recorded. But the additions are all of species of occasional or erratic occurrence and mostly of wide distribution, and the resident land-birds of this curious islet remain 7 in number, all peculiar. It is a pity that the distribution of the occasional visitors is not more fully stated in the monograph, in order to give us some better idea of the origin of the bird-life of Christmas Island.

131. *Stone on Birds from Alaska.*

[Report on the Birds and Mammals obtained by the McIlhenny Expedition to Pt. Barrow, Alaska. By Witmer Stone. Proc. Acad. Nat Sci. Philad. 1900, p. 4.]

Mr. Stone writes on the "splendid collection of birds and mammals" obtained by Mr. E. A. McIlhenny during his sojourn at Point Barrow, Alaska, in 1897–98. The series of birds comprises 1408 specimens, representing 69 species, of which 60 are from Point Barrow. Of these 13 are additional to the previous list of Murdoch *, and one (*Eudromias morinellus*) is new to the North-American avifauna. Various critical remarks on the collection are given, but the field-notes are reserved for a separate report. The Passeres of this far-northern spot are 10 in number, amongst which is a Tyrant (*Contopus richardsoni*) not previously observed so far north.

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* See Ibis, 1886, p. 195.

132. *Stone on the Summer-moult of Ducks.*

[The Summer Molting [*sic*] Plumage of certain Ducks. By Witmer Stone. Proc. Nat. Sci. Philad. 1899, p. 467.]

After studying the series of Eider-Ducks obtained by Mr. McIlhenny at Point Barrow, Alaska (see above, p. 689), Mr. Stone has come to the conclusion that the "summer-plumage" assumed by these and other ducks is, in no sense, a "nuptial plumage," as "it does not appear until the mating season is over," and is "distinctly a post-nuptial dress," mainly restricted to the head, neck, breast, and scapulars: Mr. Stone is of opinion that its use is to render the bird inconspicuous during the time when it is moulting its flight-feathers and is unable to fly. He proposes to call it the "summer-moulting plumage."

133. *Van Denburgh on Californian Birds.*

[Notes on some Birds of Santa Clara County, California. By John van Denburgh. Proc. Amer. Phil. Soc. xxxviii. p. 157.]

This is a local list, accompanied by field-notes, of the birds of Santa Clara County, California, based on casual observations extending over fourteen years. The Humming-birds here are *Calypte anna* and *Selasphorus rufus*, both of them resident and breeding.

134. *Van Kempen on his Collection of Varieties and Hybrids.*

[Sur une Série de Mammifères et d'Oiseaux présentant des variétés de Coloration, des Cas d'Hybridité et des Anomalies. Par Ch. van Kempen. Bull. Soc. Zool. France, 1899, p. 213.]

Since 1897, when a former list was published, M. Van Kempen has added considerably to his collection of colour-varieties and hybrids in the classes of Mammals and Birds.

He now gives a list of these additions, enumerating some 30 of the former and 7 of the latter.

135. *Wood on Hume's Bush-Quail.*

[Note on Hume's Bush-Quail (*Microperdix manipurensis*). By Captain H. S. Wood. J. A. S. B. lxviii. pt. 2, p. 110.]

Capt. Wood states that Hume's Bush-Quail (*Microperdix manipurensis*) is by no means such a rare bird at Manipur as Mr. Hume supposed. During his seven years' residence there Capt. Wood shot more than 80 specimens. Details as to the nesting and habits of the species are given.

XLV.—*Letters, Extracts, Notices, &c.*

We have received the following letters, addressed "to the Editors of 'The Ibis'":—

Sirs,—As I understand that some doubts are still expressed as to the truth of the extraordinary instinct attributed to the Honey-guide of attracting natives and travellers to bees'-nests (see above, p. 425), I beg leave to offer you the following account of my own experience in this matter:—

In October and November 1898, I was on a hunting-expedition in the province of Mozambique, in Portuguese East Africa. Starting from a station on the Beira Railway, I explored the country to the north of the Pungwee River for about sixty miles, accompanied by some twenty native carriers.

One day my boys brought me some honey to eat, and when I asked them how they had obtained it, they replied that the Honey-bird had guided them to the nest. Having heard the story of the Honey-guide before, I was much interested, and desired the boys, when they found the Honey-bird calling to them again, to be sure and let me know, as I wished to see the bird and its method of attracting attention. A few days later, on returning to camp, I found some of my boys absent, and was told that they were engaged in taking a bees'-nest. On proceeding to the spot, which was not far distant, I found the boys engaged in chopping out a bee's-nest, to which they told me the Honey-bird had led them. I observed them leave a small portion of the comb on a branch near the nest, for the use, as they said, of the "Honey-bird," but I did not, on this occasion actually see the bird myself.

On another occasion, just after I had shot a hyæna and while we were engaged in skinning it, my boys told me they could hear the Honey-bird calling to them. I went with them into the bush, and saw a little brown bird flying from tree to tree, and heard it uttering a kind of twittering note. After following the bird a distance of some three or four hundred yards through the bush, my boys discovered the bees'-nest in the trunk of a tree, not far from the ground, and immediately proceeded to cut out the honey.

The belief in this curious instinct in the Honey-bird is so universally prevalent among the natives of Eastern Africa, and instances of success in obtaining honey in this way have been given by so many travellers, that I cannot believe there is room for any doubt on the subject. I may remind you that, among other well-known travellers, Mr. John G. Millais (see his 'Breath from the Veldt,' pp. 185–187) has recorded his personal experience of it, and has given a sketch of the bird guiding its human allies in search of honey.

Yours &c.,

W. T. Barneby.

July 24th, 1900.

Sirs,—It may, I think, interest the readers of 'The Ibis' to hear that, during our recent expedition to the Upper Nile, we had several opportunities of observing that remarkable bird, the Shoe-bill (*Balæniceps rex*). When in company with Major Peake, R.A., in the Egyptian gunboat 'Metemmeh,' in January of this year, I first saw specimens of this bird on the Bahr-Ghazal, near the mouth of the Bahr-Horur, in about lat. 9° N., where I shot one with a rifle. It was standing in a marsh alongside the river, some 20 yards from the bank. Later on in this year, about the end of April, I again observed the Shoe-bill on the Bahr-Jebel and Upper Nile, as far south as Bor.

On returning to the Bahr-Ghazal in June last, I shot another specimen of this bird near the mouth of the river. On this occasion there seemed to be large numbers of them about, and other specimens were obtained. The birds were generally seen standing on the banks, sometimes on dry land and sometimes in shallow pools or marshes. When disturbed their flight was slow and flapping.

Yours &c.,
Wm. B. Drury, Lieut. R.N.

Junior Naval and Military Club,
Aug. 4th, 1900.

Sirs,—Will you allow me to correct a remark made by Dr. Sharpe in his paper on the "Birds of the New Hebrides"? He states (*supra*, p. 348) that the majority of Layard's types are in the British Museum, whereas, with very few, if any, exceptions, these types are in the Liverpool Museum. Mr. Layard, after 1875, consigned all his collections to me, along with his MS. notes. He was in the habit of naming, but not always describing forms considered to be certainly new, while others were left to me to describe if I should think proper. The arrangement between us was that I should keep what specimens I wished, paying for them the same price as those obtained for specimens that were sold. After selecting my own series, I always made the first offer to the British Museum and the next to Mr. Seebohm, except in the case of Pigeons, of which Mr. Salvin had the second pick. Of course I reserved all the types for my own collection, and they are now all at Liverpool.

The specimens in the British Museum may claim in many cases to be "co-types," but not more. Of *Aplonis rufipennis*, only the type specimen ever came into my hands. Mr. Seebohm purchased, through me, the whole collection which Mr. Layard had reserved for himself. In this, if I remember rightly, were some of the first collection of 1875, which may probably have been types.

Yours &c.,
H. B. Tristram.

Durham, 6th August, 1900.

Sirs,—I am indebted to Mr. James Gardner, the well-known taxidermist of 29 Oxford Street, London, for permission to describe an unrecorded egg of the Great Auk, which he has recently obtained.

This egg, which measures $4\frac{13}{20} \times 3''$, is marked with lines of pale grey, and at the larger end has several blotches, which, in consequence of having a thinner layer of shell over them, show greenish grey.

Unfortunately, some former owner of the egg has tried to clean it by scraping it with a knife, and has thus destroyed the surface of the egg, except where the blotches have escaped the cleaning process, and there the slight remains indicate that the texture was of a rough coarse grain.

The only history I have been able to obtain is, that for over 25 years the egg, packed in a box, had been hidden away in a book-case, and there is no information forthcoming as to when or where it was obtained by the person who placed it there.

Yours &c.,
Edward Bidwell.

1 Trig Lane, E.C.,
August 23rd, 1900.

Sirs,—The last number of 'The Ibis' (*ante*, p. 570) contained an account, taken from the Abstracts of the Proceedings of the Geological Society for March 21st (Session 1899–1900, p. 77), of the discovery by Prof. H. G. Seeley of a bird's bone from the Stonesfield Slate. The bone was identified as the right humerus of a Carinate bird, and as resembling the corresponding bone in a Flamingo in size and in some structural characters. It was shown that the bone must have belonged to a bird that diverged in no way from modern types, and no indication was afforded of any affinity to *Archæopteryx*.

The specimen was found by Professor Seeley amongst a collection of Pterodactyl bones obtained by the late Earl of Enniskillen from Stonesfield; this collection is now in the British Museum.

At the Meeting of the Geological Society, Dr. C. W. Andrews, of the British Museum, pointed out the probability of some mistake having occurred as to the beds from which the fossil was originally obtained, and suggested that the specimen, which much resembled the Stonesfield fossils both in the appearance of the bone and in the matrix, might have been accidentally included with true Stonesfield remains under a common number in the British Museum. He also called attention to the fact that the occurrence of a bird allied to recent forms in Jurassic beds would involve a complete change in all the accepted ideas of evolution. Professor Seeley admitted that the matrix of the new fossil differed slightly from that of other Stonesfield specimens, but gave reasons for believing that all the specimens from the Earl of Enniskillen's collection had been obtained from Stonesfield.

The results of further enquiry into the matter have been communicated to me by Dr. Andrews, by whose permission I add the following extract from a letter of his:—

"Since the paper was read, I and several others have very carefully examined the specimen and the matrix, and I think it may be said to be absolutely certain that the bone is the humerus of a species of *Palælodus*. Probably it is *P. ambiguus*, an extremely common species, of which we possess several humeri identical in structure with Prof. Seeley's fossil. This species is described by Milne-Edwards in his 'Oiseaux fossiles de la France,' vol. ii. p. 60; it is a generalized Flamingo, exactly as Prof. Seeley has stated his fossil was. The matrix is the ordinary freshwater limestone of the Puy-de-Dôme, of Oligocene (Aquitanian) age. It has much superficial resemblance to some beds of the Stonesfield Slate. We have a number of undoubtedly Oligocene bones from Central France in a similar matrix; in fact we have a humerus of the same species in almost the same rock."

I think this extract is sufficiently important to justify my calling the attention of ornithologists to it. It will be seen that as regards the affinities of the fossil, on which Professor Seeley's opinion has the weight of an authority, his views have been fully confirmed, but that he has been misled by the specimen having been, by some accident, associated with fossils from another locality. I should add that only a short abstract of Professor Seeley's paper has appeared, and the paper itself will not be published in the Quarterly Journal of the Geological Society.

Yours, &c.,
W. T. BLANFORD.

September 3rd, 1900.

Progress of the National Collection of Birds.—From the Report on the British Museum for the year ending March 31st, 1900, which has been recently issued as a Parliamentary Paper, we extract the following passages relating specially to the Collection of Birds. Amongst the principal presents announced is a large collection of recent and fossil mammals, birds, and other objects from South America, and among these birds is an example of the White-throated Caracara (*Milvago albigularis*), which has not been met with since the days when Darwin discovered it in Patagonia. The operations of the year in the Bird Department are described as follows :—

"During the past year the registration and incorporation of the Salvin-Godman Collection and recent accessions have been completed. The preliminary re-arrangement of the exhibition series throughout the whole Gallery has been completed, and more than half the cases are now filled by new and beautifully mounted specimens. The old specimens, when of historic value, have been unmounted, and the remainder placed among the duplicates. The mounting of the new specimens has mainly been executed by Mr. Cullingford, of Durham.

"Three new groups of British birds, with their nests, have been added during the year, viz.: the Rock-Dove (*Columba livia*), presented by Capt. S. G. Reid, Mr. G. A. St. Quintin, and Mr. W. R. Ogilvie Grant ; the Lesser-spotted Woodpecker (*Dendrocopus minor*), presented by Mr. A. M. Blake ; and Leach's Fork-tailed Petrel (*Oceanodroma leucorrhoa*), presented by Col. Hugh G. Barclay.

"Rapid progress continues to be made with the re-arrangement of the collections of eggs and skeletons.

"Up to December 1899, 28,000 specimens of eggs had been catalogued by Mr. Eugene Oates, and nearly the whole collection labelled and made available for reference, including the accessions received since the late Mr. Seebohm made the preliminary arrangement.

"The re-arrangement and determination of the collection of bird-skeletons continues to make satisfactory progress. Mr. W. P. Pycraft has carefully determined those of the Grebes, Divers, Struthious birds, and Tinamous, and a large number of specimens, both adults and embryos, have been added to the series.

"Much assistance in the latter work has been voluntarily given by Mr. Robert Reid."

The additions to the Bird-Collection in 1899–1900 were 5626 in number, of which the following are specially mentioned in the Report:—174 birds from Nyasaland, including the type of a new Barbet (*Melanobucco macclounii*), and a new Shrike (*Malaconotus manningi*), presented by Lieut.-Col. Manning; 40 birds from Ascension Island and Diego Garcia, presented by Dr. F. Penrose; 114 birds, 6 nests, and 11 eggs from the Chilean Andes, presented by Mr. E. A. Fitzgerald; 242 birds from Argentina and Patagonia, presented by Dr. F. P. Moreno; 8 birds from British East Africa, presented by Mr. R. Crawshay; 30 birds from Muscat, presented by Surgeon Lieut.-Col. A. Jayakar; 9 birds, 29 eggs, and 76 nests from China, presented by Mr. J. D. La Touche; 9 birds from China, presented by Mr. F. W. Styan; 1192 birds from China, including examples of many rare species new to the collection, presented by Mr. C. B. Rickett; 111 specimens from Ecuador, purchased; 103 birds from Canada, received in exchange; 56 birds from South-east New Guinea, purchased; the type of a new species of Swallow (*Psalidoprocne percivali*) from British Central Africa, presented by Mr. A. Blayney Percival; 45 birds from Cape York, North Queensland, purchased; 21 birds from Basilan, Philippines, purchased; 12 birds from New Guinea, purchased; 16 birds from the Transvaal, presented by Mr. F. C. Selous; 18 birds from Tibet, presented by Capt. Deasy; 19 birds and 9 eggs from Nigeria, presented by Dr. Christy; 206 birds and 14 eggs from Sokotra and Abd-el-Kuri, including the types of 8 new species, collected by Mr. Ogilvie Grant and Dr. H. O. Forbes, presented by the Royal Society; the types of 8 new species of birds from Uganda, presented by Mr. F. J. Jackson, C.B.; 20 nests from Norway, presented by Mr. C. Horsbrugh; 664 birds and 53 eggs from the Galápagos Islands, collected by the Webster-Harris expedition, purchased; 18 birds from Galicia, Spain, presented by Dr. Victor Lopez Seoane; 54 birds from the Gold Coast, presented by the late Colonel H. P. Northcott; 23 birds from Bolivia, presented by Sir Martin Conway; 9 examples of the "Jer" Falcon from Greenland, purchased; 41 birds, including examples of 2 species new to the collection, from New Guinea, purchased; 4 birds from Roraima, British Guiana, including the type of a new Finch (*Zonotrichia macconnelli*), presented by Mr. F. V. McConnell; 18 birds from the island of Hainan, collected by the late Mr. John Whitehead, including the types of 5 new species, presented by Mr. J. T. Thomasson; 136 birds and 6 eggs from the island of Hainan, collected by the late Mr. John Whitehead, purchased; 190 birds from South China, including the types of 3 new species and an adult pair of the very rare Scaly Merganser (*Merganser squamatus*), presented by Capt. A. W. S. Wingate; and 416 birds from S. Abyssinia, including the types of 16 new species, and examples of 10 species not previously represented in the collection, presented by Mr. H. Weld-Blundell and Lord Lovat.

Birds figured in the Egyptian Tombs.—In acknowledgment (perhaps) of some slight assistance, Mr. F. Ll. Griffith has kindly sent to one of us two parts of the beautiful memoirs on the illustrations of the Egyptian Tombs published by the "Archæological Survey of Egypt," which have special reference to Birds. In the Fifth Memoir (Beni Hasan, pt. iii. 1896) plate ii. is entirely devoted to "Bird-Hieroglyphs," of which 15 are shown and explained in the accompanying text. The exact determination of the "conventionalized" figures is not easy, although in some cases there is no room for doubt. The "Crested Ibis" (fig. 4 of plate ii.) is evidently *Comatibis comata*, or, as we must now learn to call it (see Ibis, 1898, p. 454), *C. eremita,* which may well have occurred in Egypt in former days. The figures of *Strix flammea* and *Neophron percnopterus* are also easily recognizable, though hardly accurate.

In the general series of hieroglyphs contained in the Sixth Memoir, a good many "conventionalized" figures of birds are again to be found, amongst which are recognizable representations of the Sacred Ibis (*Ibis æthiopica*), as well as of the Crested Ibis (*Comatibis comata* sive *eremita*).

A new work on the Birds of Egypt, which we may expect to be undertaken before long, should certainly not fail to contain references to all the species represented in the ancient monuments of all kinds.

The American Museum of Natural History.—The Report of this important institution for 1899 informs us that an exceedingly valuable collection of birds has been made for it in the U.S. of Colombia by the well-known collector Mr. Herbert H. Smith, and that he is continuing his researches for another year. In the department of Vertebrate Zoology 3139 birds have been received. Several new groups have been added to the Exhibition Series, and amongst them one of the Brown Pelican (*Pelecanus fuscus*), of which a photographic figure is given in the Report. The "Local Collection," which includes examples of all species found within 50 miles of New York city, "forms one of the most instructive features of Department."

Seebohm's Works on Siberia.—We read in the 'Athenæum' (July 14th, 1900, p. 61) that Mr. Seebohm's two volumes, 'Siberia in Europe' and 'Siberia in Asia,' have been out of print for several years. It was the author's intention to amalgamate the two, omitting the more ephemeral portions, and so forming one book, giving the result of his ornithological travels and researches in the north. He had made considerable progress with the work at the time of his death, and it has now been completed by Dr. Guillemard, the author of the 'Cruise of the Marchesa,' &c., and will be issued by Mr. Murray under the title of 'The Birds of Siberia.'

Death of Captain Wellby.—With great regret we see recorded the death of Capt. M. S. Wellby, of the 18th Hussars, on Aug. 5th, from wounds received in the recent fight at Pardekop. Capt. Wellby was one of the most able and intrepid of modern British explorers, having traversed Asia from Leh to Pekin, and Africa from Abyssinia by Lake Rudolph to the Nile. On returning to England some months ago from the latter arduous journey, he hurried off to join his regiment in South Africa, and met with his end as already mentioned. Capt. Wellby had a great love for natural history, although the opportunities afforded to him by his rapid style of travel did not give him much chance of collecting. During his stay at Abbis Abeba, however, on his last expedition, he managed to make a few skins of the following species, as kindly determined for us at the British Museum:—*Buteo augur, Turacus donaldsoni, Lamprocolius chalybeus, Heterorhynchus reichenowi, Dryoscopus æthiopicus,* and *Motacilla melanope.*

These skins we propose to deposit in the National Collection.—P. L. S.

Mr. Charles Hose's return to Borneo.—Mr. Charles Hose, DSc., F.Z.S., has just returned to his residency on the Baram River, Borneo, after a well-earned rest of a few months in this country, with every intention of resuming his well-known studies of the fauna of that district. Mr. Hose contemplates the publication of an illustrated volume on the Birds of British Borneo, for which, as is well known, he has been making preparations for many years. There is no one among living ornithologists better acquainted with the birds of Borneo or more competent to undertake such a work.

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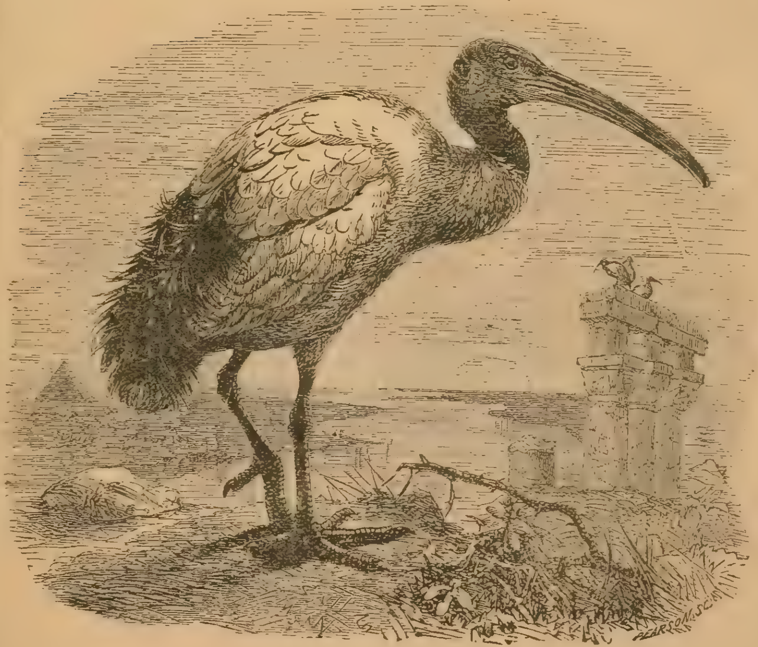

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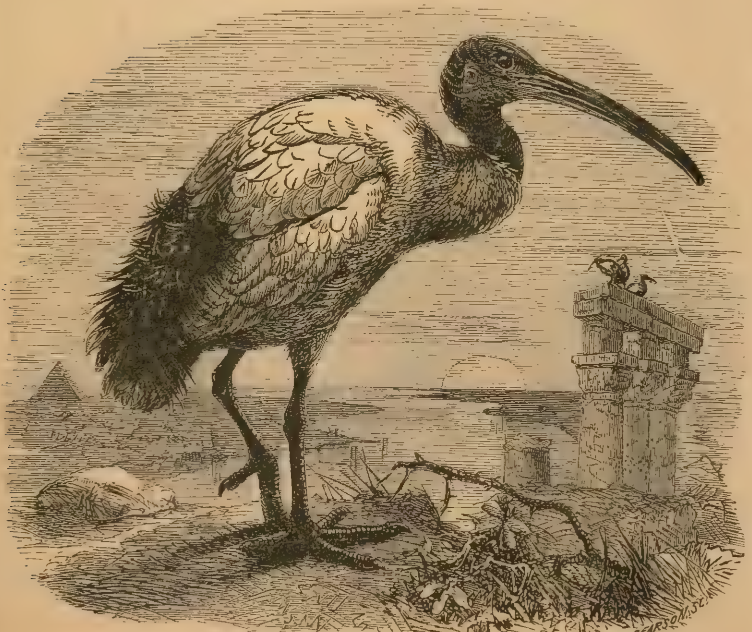

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